# Barton Reading & Spelling System: Experiences of International School Teachers in Norway of Students with Dyslexia

Sharline BUGGE

Master's Thesis
Master of Philosophy in Special Needs Education
Department of Special Needs Education
Faculty of Educational Sciences

UNIVERSITY OF OSLO

Spring 2015

# Abstract

The current study presents the voice of teachers using a dyslexia aiding program to help students with dyslexia. The goal was to gain insight on the experiences that teachers have had and to see the effects of those experiences. The research consisted of semi-structured interviews, with 3 participants, from an international school that work with students having reading difficulties. It is a qualitative study, dealing with phenomenology and hermeneutics.

This study can be an advantage for many. Teachers curious about Barton Reading and Spelling System or curious about other teachers' performances can benefit. Parents, all types of educators, and the sort, can benefit. Why? Because the effects of the program are listed and other programs used by the teachers are listed.

The findings demonstrated that the participants had varying experiences with the program, but they all see it as a good tool in teaching. The commonalities they shared were using multiple programs, not just the one. The data showed how dyslexia the term, can have assorted emotions linked to it. The teachers shared the same regard for the term and how it does not provide justice to the learning disabled world. Furthermore, a common strand throughout this study is how dyslexia is individual and therefore the outcomes to any program or method will vary between individuals.

Keywords: *dyslexia; international school; reading; spelling; teachers' experiences*

# Barton Reading & Spelling System: Experiences of International School Teachers in Norway of Students with Dyslexia

2015

Barton Reading and Spelling System: Experiences of International School Teachers in Norway of Students with Dyslexia

Sharline Bugge

http://www.duo.uio.no/

Print: Reprosentralen, Universitetet i Oslo

IV

# Abbreviations

IDA- International Dyslexia Association

BDA- British Dyslexia Association

OG- Orton-Gillingham

BRSS- Barton Reading and Spelling System

NSD- Norwegian Social Science Data Services

# Foreword

I want to dedicate this to a world that is ever changing and improving for the betterment of humanity, especially in the realm of education.

Furthermore, I want to thank all those who provided guidance and support. You are part of my success.

# Table of Contents

**No table of figures entries found.**

# 1 Introduction

Albert Einstein has a commendable quote, “intellectual growth should commence at birth and cease only at death”. It is well-known that from infancy, humans are in a constant state of learning. Education is the very core of humanity; it travels with time; from preschool, primary school, all the way to higher education, such as college/university. Einstein was right in his statement on intellectual growth. The human mind should continuously be in a condition of learning, keeping the brain active and healthy.

How can a person continue to learn if they run into difficulties in doing just that? Along the paths to learning, numerous difficulties can arise. Difficulties in writing, reading, spelling, speaking, and the like are all examples of hindrances to learning. Thankfully, the world today has many avenues to resolve countless obstacles. There are many programs and methods in place today that assist in learning. Furthermore, the internet can serve as a great tool, if used with discretion.

People who suffer with learning disabilities no longer have to get the short end of the stick in education. Their struggles have been brought to the forefront of research. This thesis will dive into one strand of the learning disabled world. Dyslexia is that strand and how one program strives to make Einstein’s quote applicable and true for all people, no matter the circumstances. Additionally, some other programs will be mentioned. Educators, parents, siblings, and the sort, sit back and read how one school puts this program into practice and the effects of doing so.

The background of why this topic was chosen, international school influence, goal (and the research problem), and the outline, will all be stated in this introduction.

## 1.1 Background

This topic was chosen because dyslexia is an intriguing field. Many experience and have experienced the struggles of dyslexia. Additionally, many educators are ill prepared or unaware of support out there. The field of special needs education can benefit from knowing how this program performs for dyslexics. Benefit it by seeing how teachers have experienced using it firsthand. How teachers can use it to help students achieve greatness and climb the intellectual ladder. It goes without saying, not every individual will have the same outcome

with this program. There are many programs out there that benefit the field of special needs education; a few others will be briefed later in this thesis.

This thesis was conducted in Norway because the University of Oslo was the degree issuing university, upon completion of this thesis. Norway has many international schools which aided in making the process easier, because English is the writer's primary language. Furthermore, an international school in Norway that uses this program helped in the connection of two great aspects, dyslexia and a dyslexia aiding program. The program is Barton Reading & Spelling System, which will be further elaborated on later in this thesis (Chapter 2). According to support teachers at this international school, the use of Barton Reading & Spelling System is proving time and time again to have a very high success rate for children with dyslexia. It should be mentioned that this program is not a cure and does not serve as the only means to help dyslexics.

## 1.2 The International School Influence

In 2011 The International Educator which is an online marketplace for international educators' stated several items that make a school 'international'. (1) Curriculum that differs from that of the host country is one indication. (2) The importance of international education and global citizenship is another indicator. International schools differ, but some common strands are (3) transient population (higher percentage than national schools), (4) diversity (multi-national & multilingual student body), and (5) the language of instruction is English or bilingual. The IASL Meeting Place (2009) and the International Baccalaureate (2015) agreeably affirm this description.

There is a particular international school in Norway that states they offer a challenging international education and have the vision to develop the unique potential of every student. This school is the same school listed above. Challenging international education is a bias statement. Merriam-Webster (2014) defines challenging as, difficult in a way that is usually interesting or enjoyable. The straightforwardness negates one fact, which is that difficulty is in the eye of the beholder. In order to make such a bold declaration, research must have been conducted showing a high percentile of students finding education at this institution to be challenging. That same statement also affirms that they develop the unique potential of every student. That is also a bold declaration. Potential is identified as existing possibility: capable

of development into actuality (Merriam-Webster, 2014). It is seemingly difficult to measure if every student's capability is actually being developed. Do not be misled, this thesis is neither negating their statements nor consenting to them, it is simply impartial, or at least will attempt to be.

## 1.3 The Goal

The goal was to observe how educator's application is so promising. What have educators experienced in using this program? How do educators perceive this program? The goal was to get an educators view, not a parents or a researchers, but a teacher. In conducting research, perhaps other schools, international and otherwise, can find use in information gathered. Not only schools, but even users in general who need more confirmation of the application process and results. Solitary if the research derived is accurate and fitting for those needing it. In all the research listed, none has been performed outside of the States, from an international school teacher's standpoint. Therefore, that is the aim of this research.

The research problem is therefore: What are international school teachers experiencing using Barton Reading & Spelling System for dyslexic students?

## 1.4 Outline of the thesis

This thesis will be 5 chapters:

Chapter 1 provides the introduction of the thesis and the background.

Chapter 2 portrays the theoretical framework for this paper with relevant studies on reading, spelling, dyslexia, dyslexia signs, teaching dyslexics, Orton-Gillingham, Barton Reading and Spelling System, and other programs. The role of spelling and reading is presented to build on the introduction and detailed explanation of the Barton Reading and Spelling System.

Chapter 3 illustrates the method of research used, participant selection, data collection, analysis process, validity/reliability and ethics.

Chapter 4 presents the data within themes and critical analysis.

Chapter 5 discusses this thesis with recommendations for further research.

# 2 Theoretical Background

It is not questionable, but factual that there are numerous accounts of information on a wide array of topics. Given the overall background of this thesis being on dyslexia, this chapter will dig deeper into different theories on the matter. It is to avail that in order to bring light to the Barton Reading & Spelling System, the influential factors and background must be revealed. Finding a balance between sufficient information and inadequate information is never easy to decipher. Additionally, recent research will be mentioned, but some research from decades ago will also be referred to. This chapter will focus on the literature facets of reading, spelling, dyslexia, Orton-Gillingham, the Barton Reading & Spelling system, and other programs.

## 2.1 The Building Blocks of Reading

Individuals with reading problems are usually termed poor reader, learning disabled, and even language-learning disabled. Disability has undergone many revisions over the years from retardation—disorder—impairment, and now learning disability. Many people have difficulty identifying written words, like dyslexics.

How does one define reading? There are undoubtedly many definitions of reading. Two general, but important segments to defining reading are, learning to read words and reading words to learn (Reid 2009). The goal is to understand what is being read. Learning to read is a process that takes several years. Usually a visual stage starts the acquisition of reading, followed by a linguistic stage (Nijakowska, 2010). The acquisition of phonological skills is important for successful reading (Reid, 2009; Sprenger-Charolles, Cole, & Serniclaes, 2006). Difficulties in the acquisition of phonological skills are considered the cause of dyslexia (Reid, 2009). The definition of dyslexia is furthered explained in a later section (2.3).

The development of reading can be observed through three stages. These stages are: Logographic stage, alphabetic stage, and orthographic stage (Frith, 1985). The stages can interact with each other. Thomson (2009) states, “reading therefore starts off the development of spelling skills” (p.156). These stages are not the blueprint to reading, as all children differ in the path to reading development. Different theorists range in the number of stages; this is

just merely one point of view. Frith (1985) developed these stages after being influenced by other theorists' and their stages. The following sections will elaborate on those stages.

### 2.1.1 Logographic Stage

The recognition of words as units and the overall word patterns is the logographic stage. The word logo is first part of logographic stage and therefore blatantly explains the meaning. The world we live in is surrounded by logos. Nearly every household contains countless logos. These are the logos beginning readers first get acquainted with, that or the ones seen in the environment (Snowling, 2000; Thomson, 2009). In this stage, Nijakowska (2010), Reid (2009), and Snowling (2000) agreeably state the child can still misspell words that were read and/or must be reproduced. This of course occurs because children are more recognizing or associating rather than reading.

Kamhi and Catts (2012) elaborates on this stage, "children construct associations between unanalyzed spoken words and one or more salient graphic features of printed words or its surrounding context" (p.30). Nijakowska (2010) supports Kamhi and Catts by affirming that this association depends on a child's visual memory of words that they are familiar with. It has also been stated that semantic memory is accessed in this stage; logographic readers store word meanings (Snowling, 2000).

In this stage children do no exercise knowledge of sound-letter relationships or letter names, to identify words (Kamhi & Catts, 2012; Nijakowska, 2010; Thomson, 2009). There is no evident role that logographic reading has a role in the development of reading. Reading logographically does not have to occur in order for a child to begin reading phonetically (Kamhi & Catts, 2012).

### 2.1.2 Alphabetic Stage

The alphabetic stage is where the child battles with symbol/sound-letter correspondence (Kamhi & Catts, 2012; Nijakowska, 2010; Reid, 2009; Thomson, 2009). Children become motivated and spelling is introduced (Snowling, 2000). Many theorists believe there are four phases in the alphabetic stage. Those phases are: pre-alphabetic, partial alphabetic, full alphabetic, and consolidated alphabetic. Reid (2009) inscribes that beginning readers form associations among visual attributes of words and their meanings or pronunciations which

help them to remember how to read sight words. Letter-sound connections are not part of the connections in this stage that is why it's called pre-alphabetic (Nijakowska, 2010; Reid, 2009).

Remembrance is a key factor in the building blocks to reading. The next stage, beginning readers focus on partial alphabetic connections to read sight words; they focus on the sounds and letters in written words in their pronunciations, but not all, only some of them (Kamhi & Catts, 2012; Nijakowska, 2010; Reid, 2009). The cues that are often remembered are the first and final letters because they are salient (Nijakowska, 2010; Reid, 2009). Some letter-sound correspondence and some phonemic segmentation need to be known, in order for beginning readers to remember sight words in this way (Kamhi & Catts, 2012; Reid, 2009; Thomson, 2009). This stage is where children are able to perform simple phonological analysis tasks (Nijakowska, 2010).

The next stage builds upon the remembrance of how to read sight words. The formation of complete grapho-phonemic connections is in the full alphabetic stage (Kamhi & Catts, 2012; Reid, 2009; Thomson, 2009). Nijakowska (2010) supports Reid and adds beginning readers also obtain the strategy of readings words by analogy and decoding. Reid (2009) states the transformation of graphemes to phonemes helps readers to decode words. Phonemic awareness and phonological skills are necessary for this stage (Thomson, 2009).

Lastly, the consolidated alphabetic phase is where retention of sight words is acquired by the connection of graphemes to phonemes (Nijakowska, 2010; Reid, 2009). These processes help beginners with pronunciations. An example is patterns that have a reoccurrence in different words, like syllabic and sub-syllabic, such as alliterations or rimes (Nijakowska, 2010; Reid, 2009). Due to the fact that sound-symbol correspondence is dependent on skills in phonics, children with dyslexia find the alphabetic stage difficult (Reid, 2009).

### 2.1.3 Orthographic Stage

It is to no avail that each stage builds on the other. The last stage is where the child has comprehension of the relationship between letter-sound along with the relationship between meaning and structure (Reid, 2009). This enables the child to use cues and context. Kamhi & Catts (2012), Nijakowska (2010), Snowling (2000), and Thomson (2009) agree with the orthographic stage encompassing automatic word recognition. Kamhi and Catts (2012)

elaborates further about this stage. They say that recognizing words with sight and not with phonological decoding by using letter sequences and spelling patterns, is a characteristic of this stage. This stage differs from alphabetic because it encompasses bigger units (Frith, 1985). It is pointed out that having the skill to use direct visual route and not phonological meditation in order to access word meaning and semantic memory, is critical to develop skills in automatic sight word recognition (Kamhi & Catts, 2012).

## 2.2 The Building Blocks of Spelling

Spelling and reading are not interchangeable, but they do go hand in hand. People with dyslexia find spelling much more difficult than reading (Reid, 2009; Snowling, 2000). Spelling is basically turning spoken language to written language. There are several factors that are imperative in order to triumph in spelling. Successful spelling usually starts with, teaching the components of words and the language aspects of sound (Reid, 2009). One must be familiar with the connection between grapheme (letter units) and phoneme (sound units) as well as the phonological representations to adequately spell.

The acquisition of spelling is influenced by the child's awareness of the language system (Reid, 2009; Snowling, 2000). Phonological awareness and the association between sound and symbol are influencing factors as well (Reid, 2009; Snowling, 2000).

There are four blocks that are foundational for spelling and reading words. The knowledge represented in these blocks is of how phonology, orthography, morphology, and semantics affect spelling (Apel, Masterson, & Brimo, 2012; Sprenger-Charolles, Cole, & Serniclaes, 2006). These blocks help individuals to spell words they have no prior knowledge of and to know why words are spelled as they are. New mental images of the words are created when individuals use the blocks successfully to read and spell new words (Apel, Masterson, & Brimo, 2012). The following sections will describe these four foundational blocks.

### 2.2.1 Phonological Knowledge

Possessing the skill to manipulate each single phoneme, or sounds in words, is termed, phonemic awareness or phonological knowledge (Apel, Masterson, & Brimo, 2012; Catts, Kamhi, & Adlof, 2012; Reid, 2009; Sprenger-Charolles, Cole, & Serniclaes, 2006).

Educators, researchers, and more are aware of the role phonological knowledge plays in early reading and spelling development (Apel, Masterson, & Brimo, 2012; Catts, Kamhi, & Adlof, 2012; Reid, 2009; Sprenger-Charolles, Cole, & Serniclaes, 2006). When it comes to unknown words and having to spell them, individuals tap into their phonological knowledge. Those words are then segmented into their individual phonemes and their sounds are represented by the application of the individual's orthographic and morphological knowledge (Apel, Masterson, & Brimo, 2012; Snowling, 2000; Sprenger-Charolles, Cole, & Serniclaes, 2006). Rhyme is the end of a syllable. This includes the vowel and the consonant(s) that follow it. Phonological awareness helps beginning readers to recognize that words that are spoken have sound sequence, which helps them to realize that most sounds have a written symbol (Sprenger-Charolles, Cole, & Serniclaes, 2006).

### 2.2.2 Orthographic Knowledge

When an individual can translate speech to print, they have acquired orthographic pattern knowledge (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Thomson, 2009). Nijakowska (2010) elaborates on this by stating, orthographic depth is the regularity of letter-to-sound relationships (p.21). This awareness of common letter combinations and sound structures in a known language can be hidden or clear (Thomson, 2009). The access of word dictionaries or lexical representations comes when letter sequences and words are compared similarly (Thomson, 2009).

Some languages have shallow orthographies where a letter or cluster of letters will always be pronounced the same way (Nijakowska, 2010; Reid, 2009). English on the other hand, has deep orthographies with different pronunciations. The depth of the words in the English orthography varies which greatly effects spelling and reading (Nijakowska, 2010; Reid, 2009). This of course is due to irregular words or exceptions, for example (Reid, 2009). Many individuals have limited understandable knowledge of orthographic patterns because they learned via mnemonics, the letter-sound correspondence and some basic orthographic conventions (Apel, Masterson, & Brimo, 2012). The huge advantage educators have today over educators in the past is the history of do's and don'ts. In other words, they can learn from the mistakes of the past.

### 2.2.3 Morphological Knowledge

Morphological knowledge is the apparent foundation for the way some words are spelled. It is also knowledge of how the spelling of words change because of the addition of a morpheme(s) to a base word (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010). Additionally, it also consists of knowledge of prefix and suffix spellings (Apel, Masterson, & Brimo, 2012). They also state how English has fixed affix spellings. Focusing on the structure of words from its basic parts is morphology (Nijakowska, 2010). There are a vast number of words that can be broken up into smaller parts (morphemes).

Using morphological knowledge helps individuals in recognizing the connection among base words and their derived forms, which in turn guides them to spelling correctly when there is no transparency in phonology or orthography of the base or root word (Apel, Masterson, & Brimo, 2012). Enhancing children's spelling and reading performance can be fueled by helping them to know and understand morphological principles (Nijakowska, 2010).

### 2.2.4 Semantic Knowledge

Semantics goes into how meaning affects spelling (Apel, Masterson, & Brimo, 2012; Reid, 2009). Many words have similar spellings and different meaning or different spellings and same pronunciation (homonym). The knowledge of semantics is crucial in spelling when it comes to conveying a message accurately and with intelligence. An example would be, "I would come if I could" as opposed to "Eye would come if eye could" or "He won the game" as opposed to "He one the game". Many technological devices such as computers, phones, tablets and the like have spell check tools built in, but it does not correct semantics, only orthographic errors. Apel, Masterson, and Brimo (2012) conclude, "semantic knowledge, contributes to spelling when an individual consciously considers whether a word spelling accurately depicts the intended meaning" (p. 228). Snowling (2000) talks about an experiment she conducted and how semantic information about a word is obtainable at an early period.

## 2.3 Defining Dyslexia

Dyslexia throughout the years has undergone many revisions, varying definitions, and the sort. It is difficult to come up with just one definition that can uphold and encompass all the intricate details and depth of dyslexia, but many take the challenge. Dyslexia is termed a reading disability (RD), congenital word blindness, developmental dyslexia, specific reading

disability, and more. Below are three different definitions and discussions on the similarities and differences. As of today, the current definition from Lyon, Shaywitz, & Shaywitz (2003) is,

> Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and / or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (p.2)

This definition is the standing definition that many have chosen to support. The International Dyslexia Association (IDA) and The National Institute of Child Health and Human Development (NICHD) are two among many supporters of this definition (IDA, 1996-2007). Reid (2009) who will also be mentioned more throughout this paper also has his own definition of dyslexia. Reid (2009) defines dyslexia as,

> Dyslexia is a processing difference, often characterized by difficulties in literacy acquisition affecting reading, writing and spelling. It can also have impact on cognitive processes such as memory, speed of processing, time management, co-ordination and automaticity. There may be visual and/or phonological difficulties and there are usually some discrepancies in educational performances. There will be individual differences and individual variation and it is therefore important to consider learning styles and the learning and work context when planning intervention and accommodations. (p.4)

The definition comparison would not be complete without adding the definition from The British Dyslexia Association. The BDA (2007) defines dyslexia as,

> Dyslexia is a specific learning difficulty that mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be life-long in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities. It tends to be

> resistant to conventional teaching methods, but its effect can be mitigated by appropriately specific intervention, including the application of information technology and supportive counseling. (para. 4)

Here is what stands out between the definitions. All three of these definitions mention dyslexia having difficulties with phonological processing, difficulties with cognitive processing, and difficulties in literacy acquisition and language related skills. All three definitions talk about classroom instruction, but in different ways. The BDA (2007) emphasizes how dyslexics are resistant to "conventional teaching methods". Lyon, Shaywitz, & Shaywitz (2003) state "effective classroom instruction" has to be a condition in teaching. Reid (2009) stresses the importance of knowing each of the learning styles.

Each definition also has differing additions. Lyon, Shaywitz, & Shaywitz (2003) for example, add the "neurological origin" strand in their definition. The BDA (2007) present their definition with an eternal strand with the statement of dyslexia being "life-long". Reid (2009) has the individualized strand in his definition. Reid (2009) states dyslexics will have "individual differences" and "individual variation" and inconsistency in educational performances. Both the BDA (2007) and Lyon, Shaywitz, & Shaywitz (2003) refer to dyslexia as a "specific" learning difficulty/disability. All of the definitions hit on the major aspects of dyslexia and all can be used to clarity/define dyslexia. Obtaining more than one definition of dyslexia is careful because it does not generalize, which is good because as Reid (2009) states, it is an individual phenomenon.

The paragraphs that follow will break dyslexia down even further into genetic & neurobiological dimensions; cognitive & processing dimensions; educational dimensions; and the multisensory approach.

### 2.3.1 Genetic & Neurobiological Dimensions

The question of whether dyslexia is genetic is often pondered. Countless research has been done to adequately answer that question. There is a high percentage of a child acquiring dyslexia if their parent has it, around 40% (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000; Thomson, 2009). Chromosome 6 is possible 'dyslexic gene' that can be in the same area as genes implicated in autoimmune diseases, which have been accounted showing high levels of connection with dyslexia (Catts, Kamhi, & Adlof, 2012;

Snowling, 2000). Seemingly an advantage with genetics being associated with dyslexia is that earlier identification can be made.

Genes are hereditary in nature, but the brain is complex in its entirety. Positron emission tomography (PET), magnetic resonance imaging (MRI), magnetic source imaging (MSI), magnet resonance spectroscopy (MRS), and functional magnetic resonance imaging (FMRI) are technology tools being used more frequently to observe brain activity and structure (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009; Thomson 2009). "When discrete cognitive task are asked to be performed by individuals, there are meticulous neural systems in the brain that process that demand" (Lyon & Shaywitz, 2003). Peer & Reid (2003) and Thomson (2009) state, there are different patterns shown between dyslexic people and non-dyslexic people when processing in the left and right hemispheres. Catts, Kamhi, and Adlof (2012) also affirm this hemisphere difference.

### 2.3.2 Cognitive & Processing Dimensions

Thomson (2009) states dyslexia is biological, dealing with deficits in cognition and behavior related signs. Children with dyslexia or reading disabilities have to concentrate harder to perform at normal levels because their automatic development isn't the same (Catts, Kamhi, & Adlof, 2012; Reid, 2009). Difficulties occur with dyslexics when they transfer information from one hemisphere to the other (Reid, 2009).

People with dyslexia have erratic eye movements, which is a result not cause of dyslexia (Catts, Kamhi, & Adlof, 2012; Reid, 2009; Thomson, 2009). Reid (2009) and Thomson (2009) both talk about the two cells found between the retina and the visual cortex. Magnocells which are in the transient system are large cells that process information about movement and contrast. Parvocells which are in the sustained system are smaller and process information about color and details. These two systems work in unison to help us differentiate still images when our eyes move and meet the visual demands of reading (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009). Thomson and Reid both state how people with dyslexia have impairments in the development of the transient system. Thus causing phonemic awareness skills issues (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Thomson, 2009).

There is said to be four areas in which phonological processing problems occur (Catts, Kamhi, and Adlof, 2012). Phonological awareness, phonological memory, phonological retrieval, and phonological production are the four areas (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010). While each individual with dyslexia will have differences in the manifestations of these problems throughout their life, there is a consistency with all having phonological processing deficit to some degree (Apel, Masterson, & Brimo, 2012; Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009). This is no wonder why they stated that phonological processing deficit is the core of dyslexia.

### 2.3.3 Educational Dimensions

Effective classroom instruction is important. A child can easily be targeted as a poor reader or dyslexic, due to the building blocks that child has from the instruction received in the classroom. Lyon, Shaywitz, & Shaywitz (2003) state how documenting an individual's instructional history helps to understand the nature of the observed reading difficulty. This being true because much can be learned from years of documentation. The majority of children who are at risk for reading failure have backgrounds of poor early childhood education and little to no preschool experiences. These same children enter the school system lacking necessary abilities (linguistic and other pre-reading) in order to tackle vocabulary, print awareness, and the sort, which are all crucial to succeed in reading development (Catts, Kamhi, & Adlof, 2012; Lyon, Shaywitz, & Shaywitz, 2003; Reid, 2009).

### 2.3.4 Multisensory Approach

Learning styles are important, just as each individual is different, each individual also learns differently. Reid (2009) backs this up by saying how important it is to consider the learning styles and cultural preferences of each individual. It does not require a highly educated person to notice that dyslexics need all their senses to better help them learn. Better yet, all students can benefit from the usage of all senses. Combining the use of vision, hearing, and kinesthetic in teaching is the multisensory approach. Multisensory approach to teaching accommodates many learning styles, which could increase the opportunity for success. Dyslexics can use their strengths and exercise their weaknesses in a multisensory approach to teaching (Nijakowska, 2010; Reid, 2009; Snowling, 2000). The Lexicon Reading Center (2015) has a mentionable quote, *"If a child is not learning in the way you teach, change your teaching*

*strategy and teach the child in the way he learns!"*A multisensory environment can be deemed dyslexia friendly.

## 2.4 Dyslexia Signs: How Can You Tell

These statements are not a means to diagnose a person with dyslexia or reading disabilities, it just a general frame in which one can use to examine whether dyslexia is a possibility, but even more so, just to inform. Not all classification and warning signs will be listed, but many will be briefed. Furthermore, dyslexia is an individual phenomenon and therefore signs will vary from person to person. Moreover these sings are usually found in pre-school and primary school aged children.

To be labeled dyslexic, one must demonstrate poor reading achievement, but possess normal or above normal intelligence (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Thomson, 2009). Problems with learning to read and spell can be a sign (BDA, 2015; Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000). Those with a history of dyslexia in their families could be at risk (BDA, 2015; Nijakowska, 2010; Reid, 2009; Snowling, 2000). Children that have constant phonological processing deficits that are and do not respond to short-term intervention efforts or scientifically based instruction, can be classified dyslexic (BDA, 2015; Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000).

"One must have sensory abilities within normal limits (this includes corrected vision). In some cases, children with sensory deficits can be diagnosed as dyslexic, provided their reading problems go beyond those predicted on the basis of the hearing or visual handicap" (Catts, Kamhi, & Adlof, p.53). Late development of speech, late development of motor ability, difficulty in remembering common sequences and names, struggling to learn to ride a bicycle, and poor coordination are more indicators of dyslexia presence (BDA, 2015; Nijakowska, 2010; Reid, 2009). Confusing words that sound similar, poor memory, hesitant to read, frustration, misread words, takes longer than most in written tasks, etc are also signs, but not limited to concern (BDA, 2015; Reid, 2009). When it comes to spelling and reading a lot of insertion, omission, condensation, displacement, reversal, rotation, guessing, and substitution are performed (BDA, 2015; Nijakowska, 2010; Reid, 2009)

Some exclusionary factors to what dyslexia is not will now be mentioned. Inadequate instruction, lack of opportunity, and low intelligence, behavioral problems, impairments in hearing or visual acuity, emotional disturbances and brain damage are excluded as the cause of dyslexia (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010). Significant behavioral problems, autism, poor reading, childhood schizophrenia, neurological impairments due to injury or illness are ruled out in defining what dyslexia is (Catts, Kamhi, & Adlof, 2012).

## 2.5 Teaching Dyslexics

These ideas are only some of the many ways one can go about teaching a person with reading difficulties, such as dyslexia. These ideas are not the blueprint and only way. Early intervention will always be of the utmost importance (Reid, 2009; Snowling, 2000). It is easier to tackle something sooner than later. Regular teaching does not help children with literacy problems to keep or catch up (Reid, 2009). As stated in many places throughout this paper, dyslexia is individual and identifying the individual needs of the student is an important step.

Teaching should include phonological aspects, support listening and attention, aid in the development of: spoken language, fine motor skills, handwriting, directionality, sequencing, and short/long term memory skills (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000). Teaching should encompass multisensory, cumulative, structured, and sequential features (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000). Teaching should comprise of: opportunities to be creative, clear focus on comprehension building activities, ample opportunities for oral work, ample game activities to stimulate interest and over-learning, etc (Nijakowska, 2010; Reid, 2009; Westby, 2012).

To achieve automaticity, dyslexics need a lot of over-learning and therefore it should be factored in the teaching program (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000).There should be structure or framework in teaching dyslexic children as they learn differently; this can be using color, labeling, considering font size, etc (Nijakowska, 2010; Reid, 2009; Westby, 2012). Rote learning is not the same as over-learning. Over-learning can be done in a way that helps support automaticity (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009).

Ultimately one must remember learning is a process that takes time and is best when familiar, holistic, and has a creative repetitive approach (Reid 2009). Additionally, dyslexia is not curable, as stated above in the definitions section (Nijakowska, 2010; Reid, 2009; Snowling, 2000)

## 2.6 Orton-Gillingham Revealed

Samuel T. Orton is said to be credited with being one of the earliest accounts of developmental reading disabilities in the United States (Academy of OG, 2012; Catts, Kamhi, & Adlof, 2012; Snowling, 2000). He delved deeper into James Hinshelwood's, a Scottish ophthalmologist and eye surgeon, who termed reading difficulty, 'word blindness'. Orton and Hinshelwood both "recommended a multisensory approach that involved explicit instructions in phoneme-grapheme associations" (Catts, Kamhi, & Adlof, 2012, p.47). Orton had a belief that not only some children with reading disabilities could learn using the approach, but all (Catts, Kamhi, & Adlof, 2012).

During the 1930's Orton was a neurologist and educator, he paired with Ann Gillingham, who was a psychologist and together they developed Orton-Gillingham. It was an approach to reading instruction for students with dyslexia (Academy of OG, 2012; IMSE, 2014; Reid, 2009; Snowling, 2000). There is a heavy emphasis on multi-sensory education incorporating the three learning pathways, which are: auditory, kinesthetic, and visual (Reid, 2009). This is great because it is known that dyslexics learn best by utilizing all of their senses (Bright Solutions for Dyslexia, 2014). The fixed incorporation of card drills, spelling and reading and usually the inclusion of activities such as: word lists and phrases, composition, handwriting, spelling of phonetic and non-phonetic words, and so, is the composition of Orton-Gillingham lessons (Academy of OG, 2012; Reid, 2009). Thus permitting implementation of Response to Intervention (RTI) while allowing for differentiation of instruction, at all levels (IMSE, 2014). The Orton-Gillingham method influenced The Barton Reading & Spelling System.

### 2.6.1 Some Research on Orton-Gillingham

Today, where you find many authors who write about learning disabilities and approaches of teaching individuals with them, Orton-Gillingham is usually mentioned (Kamhi & Catts, 2012; IDA, 2014; Reid, 2009; Snowling, 2000). Only a few additional sources of the Orton-

Gillingham approach promoters will be mentioned. This is because this study is on an Orton-Gillingham "influenced" program, Barton Reading & Spelling System.

National Reading Panel (NRP, 2006) did several studies on Orton-Gillingham (OG) and concluded that OG is a program developed for disabled readers, not non disabled. OG approach is widely used in schools (NRP, 2006). Educational psychologist and applied linguist, Catherine E. Snow also defends the OG approach. She mentions the OG approach relevance in teaching, in her book (Snow, Burns, & Griffin, 1998). The Institute for Multi-Sensory Education is OG based (IMSE, 2014). They focus on training teachers and schools to use multi-sensory approach to teach all types of students. The Schenck School (2014) uses the OG approach to teaching as well. The schools states how OG is explicit, direct, multisensory, structured, cumulative, sequential, and more.

Without knowing it, OG influenced a wide array of programs. Barton Reading & Spelling System, as previously mentioned, is influenced by OG, but some other programs will be mentioned later on as well (2.8).

## 2.7 The Barton Reading and Spelling System Exposed

The Barton System is an Orton-Gillingham influenced approach created by Susan Barton. It is a one-on-one tutoring system that is designed to help children, teenagers, and adults who struggle with reading, spelling, and writing of the English language, due to dyslexia or a learning disability (Barton, 2014). It is an English language program with letters and words of the English Language. However, it can be used for other languages, but the user(s) will have to put in some work to modify it. A study in Iran used this program and they modified it to fit their language (Mihandoost & Elias 2011). This study is mentioned in section 2.7.3. Barton Reading and Spelling System appeals to visual, auditory, tactile and kinesthetic senses in the learning process with explicit instruction. It is a very colorful, color-coded program. Barton Reading and Spelling System (BRSS) is a ten level system that enables anyone to be a tutor of the program. With adequate training of the system a tutor can take a student to the mid-9$^{th}$ grade level for reading and spelling (Barton, 2014).

Susan Barton also founded the Bright Solutions for Dyslexia website. On that website several definitions of dyslexia are presented, three to be exact. A simple definition which is, "dyslexia

is an inherited condition that makes it extremely difficult to read, write, and spell in your native language—despite at least average intelligence" (Bright Solutions for Dyslexia, 2014). This is followed by the definition that both NICHD and IDA use, which is listed above in the defining dyslexia section by Lyon, Shaywitz, & Shaywitz (2003).

The simple definition listed above uses the term "inherited" which is genetic—neurological. That was one of point in Lyon, Shaywitz, & Shaywitz (2003) definition of dyslexia. Barton's definition adds dyslexia isn't an intelligence indicator and influences native language. Granted it goes without saying, that dyslexia affects native language, but it also affects foreign language too (Nijakowska, 2010). Furthermore dyslexics do not struggle with foreign language learning alone; it is an individual matter (Nijakowska, 2010).

Barton (2014) explains dyslexia as,

> Dyslexia is the most common reason a bright child will struggle with spelling, writing, or reading. But it affects many other areas as well. Children with dyslexia also have difficulty with: memorizing their address, the alphabet, or their multiplication tables; learning to tie their shoes; writing some letters or numbers backwards past the end of first grade; learning to tell time on a clock with hands; telling left from right; confusing letter parts as b-d, b-p, p-q, or g-j; saying sounds in the right order in multi-syllable words such as animal, spaghetti, hamburger, consonant; and handwriting.

The explanation of dyslexia on the Barton website is simple; it seems very general and old-fashioned. It mentions how a bright child will struggle, but none of the three definitions above mention intelligence. Why does this definition mention it? How does Barton define bright? What about children who are considered unintelligent? Lyon, Shaywitz, & Shaywitz (2003), Reid (2009), and the BDA (2007) focus more on the evidence based and scientific explanation of dyslexia. There definitions are more contemporary and they all use words like: can, may, typically, etc. This gives the explanations an open and variance between individual stand points. Barton explains it in a way that makes it seems definite and concrete; as in all individuals with dyslexia exhibit these signs. Many of the areas she mentions that may be affected due to dyslexia are areas that a vast number of young children suffer with, being dyslexia prone or not. The important individual aspect of dyslexia is left out. Perhaps she is keeping it general and commonsense because the population she is marketing is a general one (parents, siblings, tutors, etc)? Lyon, Shaywitz, & Shaywitz (2003), Reid (2009), the BDA

(2007), and many others state how dyslexia deals with phonological difficulties. Barton does not mention that. Why? She doesn't talk about how dyslexics don't learn in a conventional way in her definition. Yet she creates an unconventional program to teach dyslexics. Basically her definition lacks a lot. It is very brief and incomplete.

Bright Solutions for Dyslexia (2014) defines learning disability as,

> "Learning Disability" is not a specific term; it is a category containing many specific disabilities, all of which cause learning to be difficult. The term "learning disability" means a disorder in one or more of the basic processes involved in understanding spoken or written language. It may show up as a problem in listening, thinking, speaking, reading, writing, or spelling or in a person's ability to do math, despite at least average intelligence. The term does not include children who have learning problems which are primarily the result of visual, hearing, or physical handicaps, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage.

The definition of learning disability, on the Bright Solutions for Dyslexia website needs a magnifying glass. Both this definition and the previous one on dyslexia, share the same author. The explanation of learning disability on the Bright Solution for Dyslexia website hits on a few noteworthy details. First, it states how learning disability is a category of disabilities that encompass many specific disabilities. Dyslexia is merely one branch of it. It goes to clarify how learning disability is not just dyslexia. It is a disorder with spoken and written language, covering many abilities, even the ability to do math. Intelligence is once again mentioned. Tactically the definition states what learning disability is not (e.g. visual handicap, environmental disadvantage).

It seems as if Barton is inconsistent in her views and explanations of dyslexia. If one simply browses through the BRSS website and the Bright Solutions website, one can see there are a lot of inconsistencies. The definition of dyslexia is one of those inconsistencies. This can be seen in her simple explanation of dyslexia and then in one of her videos explaining dyslexia.

The purpose of this section in Chapter 2 is to open the door to BRSS; the levels will be explained, the steps in a lesson will be illustrated, and some effect studies as well as critiques

will be mentioned. Furthermore, a discussion of the limiting research on BRSS will also be briefed.

### 2.7.1 Levels of the Program

The program consists of 10 levels, as previously mentioned. It is advised that the tutor start each student on level one, regardless of his or her age. It takes most students 2-3 years to complete the entire system. Each level builds on the skills taught in the previous level. Each level is broken down into lessons and each lesson is further broken down into procedures. Every level increases in difficulty. The end of each level has a Post Test to prove progress and great for IEP's. Many primary school students are able to complete levels 1-8 and levels 9 & 10 are usually delayed until secondary school (Barton, 2014). Below is a table of the 10 levels:

| *Sequence Number* | *Name of Level* |
|---|---|
| **1** | Phonemic Awareness |
| **2** | Consonants & Short Vowels |
| **3** | Closed Syllables and Units |
| **4** | Syllable Division & Vowel Teams |
| **5** | Prefixes and Suffixes |
| **6** | Six Reasons for Silent-E |
| **7** | Vowel-R Syllables |
| **8** | Advanced Vowel Teams |
| **9** | Influences of Foreign Languages |
| **10** | Greek Words & Latin Roots |

The levels come individually in a fully equipped box that contains all necessary materials to learn and teach. Each level contains 11-15 lessons, with exception to the first two. The colored coded level tiles and student pages are included for duplication purposes for each level in each box (Barton, 2014). The 10 Levels of the Barton System will be elaborated upon below; only the first 4 will go in depth while the last 6 will just be stated with few details. The

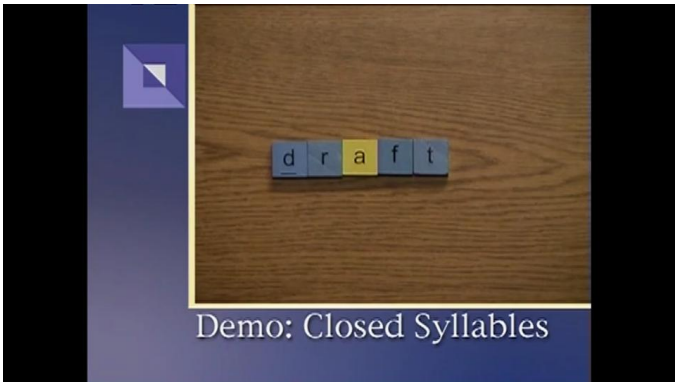
sources of these details were a compilation from the Barton webpage and a dissertation by Giess (2005).

**Level 1: Phonemic Awareness**. This initial level teaches phonemic awareness skills without using any letters. Students learn to hear and manipulate each sound in a word. They learn how to break a nonsense word into sounds, and change or delete a sound, and compare two nonsense words to find the sound that is different. This is an essential skill before students are able to read and spell by sounding out letters. Students will learn to blend sounds together and create rhymes, as well. Many dyslexics lack this skill, which is called phonemic awareness (Apel, Masterson, & Brimo, 2012; Catts, Kamhi, & Adlof, 2012; Reid, 2009; Sprenger-Charolles, Cole, & Serniclaes, 2006). Each sound corresponds to a single tile and different color tiles are assigned consonants and vowels. The manipulation of the tiles is where the learning occurs.

**Level 2: Consonants and Short Vowels**. In this second level, after students have strengthened their phonemic awareness skills, the can begin learning the sounds to all of the consonants, short vowels, and digraphs. To help students differentiate the Short-E and Short-I sounds; students will learn to "tap the vowels". Students learn to practice spelling and reading both real and nonsense words that include 3 sounds. Phrases and sentence structure, as well as reading sentences with good phrasing that helps improve fluency is also taught in this level. The tutor introduces twenty-one consonants of English, five vowel sounds, and five digraphs (two consonants that make one sound such as sh), according to Giess (2005). Although vowels and consonants are still represented with red and blue, these tiles are now lettered in this level.

**Level 3: Closed and Unit Syllables.** The third level of the BRSS introduces many new concepts. Closed syllables, unit syllables, blends, spelling rules, and contractions are taught. Students will learn to read and spell one-syllable words containing blends and up to 6 sounds. The knowledge of spelling rules such as "Floss", "Kiss the Cat", and "Milk Truck" are learned in this level. Students will also master the 15 Units found at the end of one-syllable words. This level is also the start of reading stories and answering comprehension questions. Reading and spelling sight words, spelling dictated phrases and sentences on paper, and introduction to reading (reading connected sentences) are the new procedures in this level. The rules for closed syllables that are taught are: it only has one vowel and the vowel makes a

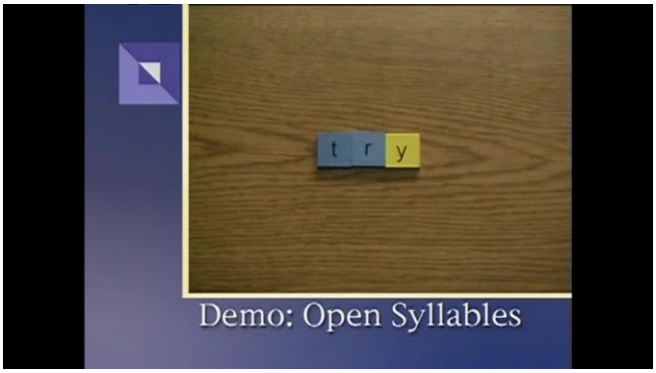
short sound; it is closed at the end by a blue tile (consonant). An example, found on BRSS website, of closed syllables application on the tiles, is listed below.




Lessons 1-4 are where the student practices reading and spelling words with blends. The difference between blends and "digraphs (digraphs make one sound and are presented on the same tile while in a blend each letter retains its sound and is presented on a separate tile) are taught"; the tutor uses two letter and three letter blends (Giess, 2005). The "Floss" rule is when the word ends in "f", "l", "s", or "z", so students learn how to double the final consonant in a closed one-syllable word ending with those letters. The ability to comprehend the exceptions to that rule is also taught in the same Lesson 5. In lesson 6 is the introduction of the "Kiss the Cat" rule that explains when to use "k" verses "c" to make the /k/ sound in the beginning of a word. The "Milk Truck" rule comes in Lesson 7 that establishes when "k" verses "ck" should be used to make the /k/ sound at the end of a one-syllable word. Another rule is the "Catch Lunch" rule that explains when to use "tch" verses "ch" to make the /ch/ sound at the end of a one-syllable word. The exceptions to the spelling rules are also provided to the student by the tutor. The concept of contractions comes in Lesson 10 where a student learns how to make two words into one.

**Level 4: Syllable Division and Vowel Teams.** This level teaches open syllable, syllable division, schwa and the most common vowel teams. Students learn all four syllable division rules. Lesson 1 is Open Syllables where the tutor teaches there is only one vowel in an open syllable, the syllable is open at the end, so it is not closed by a blue consonant tile, and the vowel says its name, a long vowel sound (Barton, 2014; Giess (2005). Lesson 2 & 3 teaches how to divide syllables. At the completion of this level, students should be able to read and spell words that contain up to four syllables that are either Open, Closed, Unit, or the 9 most

common Vowel Team syllables (Barton, 2014). An example from Barton (2014) is illustrated below. More examples from BRSS can be found in the Appendix section.




**Level 5: Prefixes and Suffixes.** This fifth level of the BRSS teaches prefixes and suffixes and all other related spelling rules. Students learn the meaning and spelling of 17 suffixes and 12 prefixes. The acquisition of how to isolate and spell the base word first is taught. The rules for "TION" and "SION" are taught in this level. Students also learn the drop and change spelling rules (Barton, 2014).

**Level 6: Six Reasons for Silent E.** This level teaches reasons for silent-e. This helps clear confusion of why a word would end with a silent-e. Silent-E units, drop spelling rule, and new prefixes and suffixes are taught (Barton, 2014). Further details of this level can be found in the Appendix.

**Level 7: Vowel R's.** This level teaches vowel-r syllables and all related spelling rules. Unusual sounds are made by vowels when followed by an R. "Students will learn the reading and spelling rules that apply to Vowel-R syllables, the impact of accents, and review the spelling rules that apply when adding suffixes (Barton, 2014). Further details of this level can be found in the Appendix.

**Level 8: Advanced Vowel Teams.** This level builds on Level 4 that taught the 9 most common vowel teams and this level teaches 15 other vowel teams (teams that make more than one sound). When to split two vowels instead of treating it as a team will also be taught in this level (Barton, 2014). Supplementary details of this level can be found in the Appendix.

**Level 9: Influence of Foreign Languages.** This level teaches the influences of foreign languages such as French and Spanish. Students learn how to read and spell borrowed words

from these languages (Barton, 2014). Additional details of this level can be seen in the Appendix.

**Level 10: Latin Roots and Greek Combining Forms.** This final level teaches the meaning and spelling of most common Greek words and Latin root. This helps increase vocabulary and prepares students for higher education (high school and college). Chameleon prefixes are also taught in this level (Barton, 2014). Deeper details of this level can be seen in the Appendix.

### 2.7.2 The Steps in a Barton Lesson

On the Barton (2014) website, steps in a lesson are listed A-J:

These are the steps in a Barton lesson:

> A: Quick review of prior lesson. B. Phonemic awareness warm-up. C: Teach new skill or rule, in color. D: Read & spell real words using new skill or rule, in color. E: Read & spell nonsense words using new skill or rule, in color. F: Read & spell both real and nonsense words, on paper, in black and white. G: Read & spell phrases on paper, in black and white for fluency as well as accuracy. H: Read & spell sentences on paper, in black and white for fluency, accuracy, and phrasing. I: Read controlled-text stories on paper, in black and white, for fluency, accuracy, and phrasing. Also check for comprehension. J: Extra practice pages can be done as seatwork or sent home

The Scope and Sequence of BRSS can also be found on the website and is illustrated in the Appendix.

### 2.7.3 Some Effect Studies and Critiques of the Barton System

The Barton Reading and Spelling System is generally available to the public, therefore some criticism from such users will be presented. According to a user in 2013, “I bought the Barton Reading and Spelling Program with high hopes it would help my dyslexic, then 8 year old daughter. It was dull and uninspiring. Our daily lessons were excruciating. The Barton Program just made her feel dumb. We finished Level Two and called it quits” (Helping Every Child to Read). Another user in 2012 stated, “Pros- great for early reading development for preschoolers or students that are struggling with basic sound awareness. Cons- Expensive for what you are getting. Mrs. Barton isn't consistent with her letter sounds (all letters except r

must be pronounced correctly but r is pronounced "er" instead because there is little difference between the two sounds. Overall I am extremely disappointed with this program. I wanted to find a way to help with dyslexia but I fear this isn't it" (Amazon, 1996-2014).

The first listed review describes BRSS as dull & uninspiring. This is not good if BRSS aims to inspire dyslexics and be multi-sensory. That reviewers experience seems contradictory to the goal of BRSS. The second listed review concluded with that they were extremely disappointed with BRSS. These two reviews alone are odd because BRSS displays the program in a positive and therefore non-objective manner. Why? Is it to Block out such comments and reviews as these?

The Barton System was even used in Iran, with some modifications being made to it (for language purposes). Mihandoost & Elias (2011) suggests, "the Barton intervention program can improve the dyslexic children's reading comprehension" (p.49). They researched whether the program would have an effect on the reading attitude and comprehension of dyslexic students in the fourth and fifth grade in a city in Iran. This research was conducted in 2010 and was found to be well received. The results showed the effectiveness of the program, students with dyslexia's attitude toward reading increased. Their reading comprehension also improved.

The Iran study was the only study found outside of the studies listed on BRSS website and more researched based unlike the reviews from the general public. Why is there not enough outside research conducted on BRSS? Where are all the outside evidences to back this program? The Iran study, unlike the reviews from the general public, was a positive one. It states how it improved the reading comprehension of dyslexic children and their attitudes towards reading.

There has been a lot of independent research conducted on the Barton System in many parts of the U.S., like California, Florida, Alaska, Texas, West Virginia, and Arkansas related to the system's efficiency (Barton System, 2014). This research of course is listed on the BRSS website and is considered "within" Barton and therefore cannot be seen objectively, but worth mentioning.

### 2.7.4 Where's the Research?

Despite having insufficient amount of research conducted on Barton and all it entails, many are still using her resources. The BRSS is growing in popularity and usage more and more. Additionally, the Bright Solutions for Dyslexia website has also influenced many throughout the years. Objectively speaking, it seems as if BRSS is a great idea to support, so how come there is not enough research? Where is all the evidence? The previous section mostly has all that was found on Barton in regards to research. Luckily for Barton, advocates, and opponents, this thesis will add to the limited outside research on the matter.

It should be mentioned that Susan Barton is distinguished for all her contributions, regardless of the lack of well-rounded objective research out there. The IDA awarded her in their Hall of Honor in 2009 (IDA, 2014). Apparently all outstanding contributions in the field of dyslexia are recognized by IDA, if deemed agreeable. Perhaps as the years roll by, more and more research will emerge. Perhaps more evidence will surface. Perhaps, or perhaps not; only time will tell.

## 2.8 Other Programs

This sections aims to briefly mention other methods/programs that are used by educators to teach struggling learners. These programs will be briefed and shortly compared with BRSS.

### 2.8.1 Lindamood-Bell

This method is an Orton-Gillingham influenced program. Lindamood-Bell is composed of 5 programs. These programs were created to "develop the sensory-cognitive processes that underlie reading and comprehension" (Lindamood-Bell, 2015). They firmly believe reading and comprehension is something every human being can accomplish. Lindamood Phoneme Sequencing Program for Reading, Spelling, and Speech (LiPS) and Seeing Stars: Symbol Imagery for Phonological and Orthographic Processing in Reading and Spelling (SI) are two heavily used programs by the international teachers in this study (see Chapter 4). Visualizing and Verbalizing for Language Comprehension and Thinking (V/V), Talkies: Visualizing and Verbalizing for Oral Language Comprehension and Expression (Talkies), and On Cloud Nine Math (OCN) are the remaining three of the five programs within Lindamood-Bell.

LiPS centers on the "development of an oral-motor, visual, and auditory feedback system that enables all students to prove the identity, number, and order of phonemes in syllables and

words" (Lindamood-Bell, 2015). It is more basic and more extensive than traditional phonics programs (Lindamood-Bell, 2015). Phonemic awareness follows and is applied to reading, spelling, and speech.

OCN math program for visualizing and verbalizing math, aims to deal with the cognitive processing of mathematics, which "requires the dual coding of imagery and language and how imagery is fundamental to the process of thinking with numbers" (Lindamood-Bell, 2015).

SI centers on the development of symbol imagery for reading and spelling. The "automaticity of symbol imagery allows for rapid processing and quick self-correction and because the processing is not laborious and time consuming, an individual's reading fluency is maintained and guessing is reduced" (Lindamood-Bell, 2015).

Talkies, "the primer to the Visualizing and Verbalizing (V/V) program is designed for students who need simpler, smaller steps of instruction to establish the imagery-language connection" (Lindamood-Bell, 2015). This program is helpful to students diagnosed with autism spectrum, preschool children, or "students with limited oral vocabulary and/or limited ability to verbalize" (Lindamood-Bell, 2015).

V/V "program develops concept imagery, the ability to create an imagined or imaged gestalt from language, as a basis for comprehension and higher order thinking" (Lindamood-Bell, 2015). This growth "improves reading and listening comprehension, memory, oral vocabulary, critical thinking, and writing" (Lindamood-Bell, 2015).

### 2.8.2 Wilson Reading System

This method is also an Orton-Gillingham influenced program. The Wilson Reading System was developed by Barbara Wilson. She wanted "to teach students the structure of words in a systematic and cumulative manner" (Wilson Language Training, 2004-2010). This system helps students to feel confident that they can learn English with all its irregularities (Wilson Language Training, 2004-2010).

Wilson is a multi-tiered program encompassing Foundations, Just Words, and The Wilson Fluency. Foundations, "is a research-based program designed to bring explicit, cumulative, systematic, and multisensory reading instruction to K-3 general education classrooms"

(Wilson Language Training, 2004-2010). Wilson is used by the international school teachers in this study (see Chapter 4).

In 2002, Foundations was branded as a prevention and early intervention program across schools in America (Wilson Language Training, 2004-2010). For students aged 4-12 with literacy challenges, the program Just Words was created. It is not as intensive as Foundations, but explicit with decoding and spelling instruction. Just Words was created for older learners, even adults. It was branded as second tier intervention across schools in America in 2009 (Wilson Language Training, 2004-2010).

The last program with Wilson is called The Wilson Fluency. This "program provides supplemental explicit fluency instruction and reading practice to develop the application of skills with connected text" (Wilson Language Training, 2004-2010). All three of these programs work together to help students "develop rate-appropriate independent reading with ease and expression" (Wilson Language Training, 2004-2010).

### 2.8.3 Cued Articulation

This method was developed by Jane Passy, a speech pathologist. For young learners, Cued Articulation helps develop sound awareness and is now also a fundamental aid in the acquisition of literacy skills (SoundsforLiteracy, 2015). One must understand normal speech pattern development to help make it easy and fun to learn with Cued Articulation (SoundsforLiteracy, 2015).

What exactly is Cued Articulation? Well it is "a set of hand cues for teaching the individual sounds in a word" (SoundsforLiteracy, 2015). This sounds interesting, but it is logical and is definitely used by the international schools teachers in this study (see Chapter 4). SoundsforLiteracy (2015) further breaks it down by stating, "each hand movement represents one sound and the cue gives clues as to how and where the sound is produced". Additionally, there is color coding for written letters that represent the sounds.

Furthermore, SoundsforLiteracy (2015) states how educators who work with students with specific difficulties, benefit the most by using Cued Articulation.

### 2.8.4 The Comparison and Discussion

All of these programs aim to aid in helping individuals experiencing difficulties in learning, to push through their struggles, and shine. All of these programs, BRSS, Wilson, Lindamood-Bell, and Cued Articulation, were developed by women, are explicit, and aid in the acquisition of literacy skills. BRSS, Wilson, and Lindamood-Bell are all OG influenced programs and therefore are multisensory, but Cued Articulation is also multisensory. This is because it deals with sound (hearing), seeing, and movement.

Lindamood-Bell was created to help reading and comprehension, it is extensive, basic, teaches phonemic awareness (similar to BRSS), and helps with reading fluency. Furthermore it helps with reading, spelling, and speech; as well as the cognitive processing in mathematics. Lindamood-Bell seems to encompass more of what an educator would need, encompassing not only language, but math as well.

BRSS, similar to Lindamood-Bell helps with reading, spelling, and writing. Lindamood-Bell doesn't mention writing, but it can be assumed, it mentions speech. Being that Lindamood-Bell has explicit programs for speech, it cannot be assumed for BRSS because it does not have explicit programs for speech.

Cued Articulation is similar to BRSS in that it is color coded. Cued Articulation is similar to Lindamood-Bell in that it deals with sounds (speech), the oral aspect of learning and verbalizing.

BRSS is the only program of the total four (including BRSS) that mentions dyslexia the term, as a group that would benefit from the program. The other programs simply mention specific difficulties the program can help improve, with the exception of Lindamood-Bell who mentions autism spectrum in one of the program components.

Both Lindamood-Bell and BRSS help in visual, auditory, and kinesthetic learning process, but Lindamood-Bell, as previously mentioned, helps with oral-motor as well. Both BRSS and Wilson are cumulative, systematic, and structured in teaching words. Wilson helps with reading and spelling instruction, similar to BRSS and Lindamood-Bell. Wilson also helps with reading fluency (similar to Lindamood-Bell). Both Wilson and Lindamood-Bell have several components within their programs.

All four of these programs can be used for individuals to better help them thrive in the realm of education and learning. Out of all the programs, Lindamood-Bell seems to be the most

equipped tool to help more individuals with an array of difficulties, guaranteeing aid in many areas.  Wilson seems to be the second most equipped tool, offering aid for a range of ages and centering on reading. Cued Articulation cannot be measured against these two because it is in its own category, because it specializes in sounds. BRSS compared to these other 3, but really 2 due to Cued being in a separate category, comes last. BRSS lacks the well-roundedness and depth the first two have.

# 3 Methodology

Methodology can be summed up as an approach to how one thinks about and studies social reality (Maxwell, 2005; Scott & Garner, 2013; Strauss & Corbin, 1998). Research approaches are the plans and procedures that transform broad ideas to detailed ideas of methods of data collection, interpretation, and data analysis (Creswell, 2014; Scott & Garner, 2013). Interpretation in qualitative research has the ability to poses many shapes, adjust for different designs, "and be flexible to convey personal, research-based, and action meanings" (Creswell, 2014, p. 201). There are three different approaches of designing research. Those designs are: qualitative designs, quantitative designs, and mixed methods designs. The design of this research is qualitative.

This chapter will focus on the qualitative method of research chosen, participant selection, data collection procedures, conducting interviews, data analysis, validity/reliability, and conclude with ethical issues.

## 3.1 Qualitative Approach

Qualitative verses quantitative, which is the better alternative? While one deals in quantities and statistics, the other deals more with personal perspective. The lived experiences of people, their emotions, behaviors, etc as well as cultural occurrences, social movements, and the sort are examples of qualitative approach to research (Maxwell, 2005; Strauss & Corbin, 1998; Willis, 2007). Creswell (2014) Scott & Garner (2013) and Willis (2007) call this phenomenological research. There are benefits for both designs, and indeed for taking the qualitative route.

Creswell (2014), Strauss & Corbin (1998), and Maxwell (2005) all state that qualitative research deals with interviews, observations, documents, and audio-visual materials. The research could not be conducted through observations and therefore dealt with interviews. The interviews involved audio materials, because they were recorded.

This study focused on one program BRSS and experiences had by teachers. The research was based on the opinions of participants and how they view the program as it pertains to students with dyslexia. Conducting qualitative research for this study functioned well.

## 3.2 Participant Selection

The sample of this study was neither random nor systematic. Granted it was neither a convenience sample either, the closest description would be that nonetheless. The individuals were available and convenient, but only because they fit the role (Creswell, 2014; Maxwell, 2005). The role of being experienced with BRSS and dyslexic students, as well as teachers in English based school. The sample was international school teachers. These teachers either had experiences with using the program or are currently still using the program. These participants were selected voluntarily and interviewed.

The study was executed in a natural environment for the participants, the school (Willis, 2007). The focus was on the primary sector. Therefore, the probability of having more participants could increase if it was both primary and secondary sector. The researcher wanted to use participants that dealt with dyslexic students at a younger age because that is generally when interventions are played out. Additionally, the researcher has special interest for the younger aged learners.

The selection of participants had to be more than one; otherwise the study would be a case study. The sample procedure was single stage as the participants were sampled directly and the researcher was given the names of individuals who would fit the role. The number of participants was 3. However small this number may seem, it was adequate and provided the researcher abundant information through transcribed interviews. This number was sufficient for the phenomenological design to this research. This number still provided rich data (Creswell, 2014; Maxwell, 2005; Willis, 2007).

Stratification of the participants was not conducted. The researcher did not search for teachers with specific characteristics (gender, income levels, background). As stated above in the first paragraph of this section, the role was the only form of 'stratification'.

All of the teachers are from English speaking countries where English is the main/official language. The teachers have experience in their filed for more than a decade. All of the teachers are support teachers working with children with learning disabilities, not just dyslexia. They are all women. These teachers are experienced to some degree with BRSS. Lastly, they all teach at an international school in Norway.

## 3.3 Data Collection Procedures

This section will focus on procedures used in interpreting and organizing the data (Scott & Garner, 2013; Strauss & Corbin, 1998; Willis, 2007). The following sections will elaborate on the qualitative interview and the interview guide.

### 3.3.1 Qualitative Interview

Interviews that extract opinions and views from participants in a face-to-face manner are considered qualitative interviews (Creswell, 2014; Scott & Garner, 2013). Interviews have many facets, not just face-to-face. There are also telephone, email/internet, and focus group interview methods. The interviews consisted of open-ended questions and were unstructured/semi-structured (Scott & Garner, 2013; Willis, 2007). The interviews were mainly face-to-face with a few emailed questions. The variety of options enables more participants to participate. The intention was to conduct semi-structured interviews, audiotape the interviews, and transcribe the interviews (Creswell, 2014; Maxwell, 2005; Scott & Garner, 2013; Willis, 2007). Obtaining participants lived experiences was the main focus of the interviews.

The interviewer had to be objective to information obtained as it was a combination of what was being said and what was not. Many points that were made by the interviewees were simply factual as it was based on completed performances. Due to the fact that the participants could not be directly observed using BRSS, interviewing was a big advantage (Creswell, 2014).

The interviewer set the stage. An introduction was laid out, questioned were inquired upon, and it concluded at the researcher's will. The researcher listened intently and strived to ask probes if necessary. Next the formulation of the interviews will be elaborated upon.

### 3.3.2 Interview Guide

Interview guide or interview protocol is the plan for recording and writing information gathered from asking questions during an interview (Scott & Garner, 2013). The interview guide that was used to ask questions and record answers during the interview is located in the Appendix. The questions were formulated through inspirations from the research topic and

literature. It should be stated that creating the interview guide was no easy battle. Much revision and edition was needed in creating the interview guide. The researcher must be open to changing questions time and time again in order to reach a sufficient interview guide. The end of revising the guide seems nonexistent, but alas, it ends. The researcher had to add more questions to the guide after having completing and conducting the interviews. New questions arose and had to be inquired upon.

It is recommended that the interviews not only be recorded for efficacy, but also hand written in case of technological malfunctions (Creswell, 2014). Time needs to be set aside to transcribe the recorded interviews.

The researcher and interviewees already had rapport as the researcher aided each in different tasks and had visited the school on several occasions (Maxwell, 2005). The interview started with ‘ice-breaker type’ questions such as background of the interviewee. Following these questions were more specific questions geared towards the topic of the study (BRSS). In concluding the interview, open ended general questions were asked. Teachers were asked for feedback about the interview and thanked for their time.

Questions on different experiences from the teachers were inquired. The length of experience of working with students with specific learning difficulties was inquired. Time is a gift and a curse. It adds significance to the experience, but also adds habits to experience. The length of using the program was also inquired. The question of how the teacher views dyslexia was valuable. This was great because there are so many views out there and the ones from the teachers are worth displaying.

In order to gain well-rounded teaching practices, changes to the program were inquired as well as any other programs. This question was commendable. It helped to compare BRSS to other programs (see Chapter 2). Furthermore, the ways in which students are diagnosed in that school was also inquired. This is credible as it shows the teachers are objective and have specific experience.

## 3.4 Conducting the Interviews

Prior to conducting the first 'initial' interview, the researcher performed a 'pilot' interview on a third party participant. The pilot was adequate and therefore no revisions were done following the pilot interview.

The interviews started in December 2014 and concluded in April 2015. The interviews were carried out in the schools, as previously stated. Some of the interviews were executed in the classroom used by the teacher, or in the school library. Although the desire was to conduct one interview right after the other, weeks and months separated some interviews. The duration of the interviews varied slightly, but all were under 20 minutes.

Each teacher had different experiences and opinions that either shortened or lengthened their interview answers. They each added a new perspective to the program. It was interesting to witness how some views of BRSS completely clashed. Some of the teachers took the program personally and while others saw it only in a professional way. The experience of using the program also varied among the teachers; with some being formerly trained and others not.

A recorder was used in order to catch everything that was being said by each individual. The researcher wanted to focus more on asking the questions and probes if needed, as well as getting the whole picture (reading between the lines) from the interviewees. Furthermore, very quick notes were taken in order to give the interview and interviewee and 'interview' type feel.

After the interviews were conducted, more interviews had to be performed. The additional questions that arose during coding and added to the interview guide were inquired through email. The participants responded via email. The notes and experiences felt during the interview process were jotted down in a reflective journal.

## 3.5 Data Analysis

In short, data analysis is condensing gathered information (Grbich, 2013; Willis, 2007). Data analysis and interpretation starts right from the beginning of data collection and spans through the write-up of findings. After one interview is complete and in the interim until the next one is executed, the researcher can analyze the former interview. Not all of the information gathered will be useful and therefore only parts will be used (Creswell, 2014; Willis, 2007).

This is often referred to as data reduction. Qualitative data becomes so rich and dense that it needs to be reduced. The researcher was the research instrument (Maxwell, 2005).

In analyzing the data, hand coding was performed. There are excellent computer software programs available, but the researcher felt more confident in hand coding. There has to be a certain level of skill and acquired knowledge to adequately implement a qualitative computer data analysis. Even the most detailed research analysis will miss data. The researcher was sober minded after reading many books and articles on the matter and therefore settled with hand coding.

The steps that occurred were: (1) raw data was gathered in the form of interview notes and recordings; (2) the data was organized and prepared for analysis through transcription; (3) the data was read through and rechecked against recordings; (4) the data was hand coded; (5) the data was coded with the themes: Teachers' Background & Experience; Dyslexia Diagnosis & Views; Affects of BRSS; Changes to BRSS; and Personal Views of BRSS; (6) the themes/descriptions were shaped into a general description with subthemes; (7) and finally the teachers experiences were interpreted (Creswell, 2014; Maxwell 2005). The themes and subthemes can be found in the results chapter of this thesis, Chapter 4. The interpretation can also be found in that chapter.

The following sections will elaborate on transcription, hermeneutic phenomenology, and coding, in regards to this research.

### 3.5.1 Transcription

The process of taking recorded information off devices and into a document is called transcription. The personal style of the researcher, refraining from making analysis personal, and so forth are not easy feats (Maxwell, 2005; Sullivan, 2012). Even the most detailed of transcriptions still miss data.

In order to better interpret and analyze the information gathered from the interviews, the recordings were transcribed. Transcription is a very laborious and time-consuming part of analysis. The researcher should have adequate typing speed and skills as well as a good quality recording device to help ease the process of transcription.

The earlier the transcriptions occur, the better. The freshness of the interviews helps to transcribe beyond what was said, but also nonverbal communication. Additionally, if sound quality or speaking slurs exist on the recording device, the memory of the researcher will serve as a powerful tool. The researcher did not heed to this great advice and ran into only a few slurs, luckily. Each of the 3 interviews took more than an hour to transcribe. It was listened to time and time again to catch every phrase in its exact manner. Upon the completion of transcribing the interviews, deeper analysis began. This leads us to the following section.

### 3.5.2 Hermeneutic Phenomenology

When an interpretative method comes to play in phenomenology, hermeneutic also tags along (Willis, 2007). This is where the interpretation seeks to understand the data collected and makes sense of it (Creswell, 2014; Maxwell, 2005). Grbich (2013), talks about having a reflective journal to record assumptions, views, and experiences. The reflective journal was mentioned earlier and used during the interview process. Hermeneutic phenomenology is much like phenomenology (stated earlier) and deals with life or lived human experiences. The focus is to illuminate details and generate meaning and gain some understanding.

This approach was immense because interpreting what the teachers said was necessary to grasp their individual experiences with the program. Furthermore, interpretation is a human trait. Conveying understanding and exposing phenomena through language is part of the interpretive process (Creswell, 2014; Maxwell, 2005). The hermeneutic circle is the full picture of the interpretation and understanding process. The circle increases the depth of the data by moving from the whole experience to part to whole. This repeats over and over until sensible meaning is acquired (Grbich, 2013; Maxwell, 2005; Willis, 2007). It goes beyond what is directly stated, reads between the lines, and sheds light on what has been taken for granted and not questioned. The circle mostly consists of reading, reflective writing, and interpretation (Grbich, 2013; Maxwell 2005; Willis, 2007)

### 3.5.3 Coding

The process of interpreting and organizing the data in segments in order to obtain a general sense of it is coding (Maxwell, 2005; Scott & Garner, 2013; Strauss & Corbin, 1998; Willis, 2007). The purpose of coding is to generate a description. Creswell (2014) defines

descriptions as, “involving a detailed rendering of information about people, place, or events in a setting” (p.199). Codes are usually generated by researchers for a description. Themes are also generated from codes and are listed as major findings. Qualitative studies use these themes as headings in the findings sections of the thesis. Chapter 4: Presentation of Results is where you will find the themes in this thesis. You will also see a display of multiple perspectives in the form of quotations from the teachers (Creswell, 2014; Willis, 2007).

Creswell (2014), talks about steps in the coding process. Undoubtedly, the initial step in coding is to try and get a general sense of the transcriptions. The researcher took the advice of Creswell (2014) and fortunately had little challenges. It was time consuming because the transcriptions were read one by one and reflecting in the journal took time. The journal was used to write done the topics that stood out as well as experiences, assumptions, and ideas. The idea was to figure out the main message. A list was created from the topics and placed in the journal. In the list similar topics were bunched together and columns were formed from the topics. Topics regarding experience and educational background where bunched together. The views of dyslexia and how the students were diagnosed were bunched together. The changes to BRSS and other programs used were bunched together. The list went back through the data and abbreviations were made from the topics, thus creating codes. The codes created were: EDB- educational background, EXP- experience, DVD- definition or view of dyslexia, DIA- diagnosis, AFF- affects of BRSS, ACA- alterations, changes, or additions to BRSS, and PVB- personal views of BRSS. Creating the codes was not difficult, but inserting them throughout the data was laborious. These codes were inserted next to segments/sections they pertained to in the text. Luckily, new categories or codes didn’t surface in the process, but could have (Creswell, 2014).

Reduction occurred by grouping categories with relatable topics to get a more apparent view of what the teachers’ experienced. One set category was not grouped because a clearer analysis could be attained through its three segments. That category is experience and the segments to it are: experience with BRSS, experience with teaching, and experience with dyslexics. Following the completion of that step, the codes were alphabetized and the data that pertained to each category was grouped for preliminary analysis (Creswell, 2014). It is also advised to recode if necessary. Some recoding occurred, but the overall themes remained the same. All the codes were created during the analysis process, therefore not predetermined.

## 3.6 The Validity and Reliability of the study

The final component in the research design is validity (Maxwell, 2005). There is not a method that can guarantee captured validity in your research (Maxwell, 2005; Willis, 2007). Creswell (2014) says validity happens throughout the steps in data analysis. Validity is relative and therefore deals with relationships (Maxwell, 2005). The quality of a study can be judged by how well it deals with threats to validity (Creswell, 2014; Willis, 2007). The researcher will attempt to inform the reader on how validity was sought. Qualitative validity explained by Creswell (2014) is where the "researcher checks for the accuracy of the findings by employing certain procedure and qualitative reliability show that the researcher's approach is consistent" (p.201).

Maxwell (2005) presents a validity checklist, but not all items on the list will be feasible for every study. Rich data and triangulation are the two points in the checklist that were taken for this study.

Rich data such as verbatim transcriptions from interviews are listed below in Chapter 4; thus giving the full picture of what is going on (Creswell, 2014; Maxwell, 2005; Willis, 2007). This helps address the validity. The exact transcriptions will not be presented; this is to secure the identities of the participants. Additionally, the recording of the interviews was performed and therefore can be matched up with what was transcribed. The recordings were listened to over and over to adequately capture what was being said. This allowed the truth and facts gathered from the interviews to not be manipulated by the researcher. There wasn't any background noise or low speech and therefore the recordings were clear. Furthermore, the email portion of the interview was straight verbatim, complete copy and paste.

Triangulation is finding multiple sources of information confirming the conclusion (Creswell, 2014; Maxwell, 2005; Willis, 2007). This is yet another way to show the reliability and validity of the study. This study on BRSS experiences not only took experiences had by teachers at the international school, but also from general users of the population, as well as a study conducted in Iran.

Validity poses the question, "Why should one believe this study" (Maxwell, 2005; Willis, 2007)? This question is asked if all research is conducted by one researcher. The validity threat of how the researcher may be wrong needs to be considered (Maxwell, 2005). There are

many threats to validity and many ways of addressing those threats. Researcher bias and reactivity will be briefed.

Qualitative research doesn't have the benefit that quantitative does in validity; in that previous studies can be used to show validity (Creswell, 2014; Maxwell, 2005). This particular study is objective and therefore is not biased. This is so because the researcher came into this study with neutrality; it pertained only to the inquisitive nature of the researcher. There weren't any personal ties to this study; not by experience nor by knowledge. Bias and subjectivity are often used interchangeably (Creswell, 2014; Maxwell, 2005; Willis, 2007). The presentation of the data can seemingly affect the subjectivity, but the aim as stated throughout this paper is to be objective and neutral.

Reactivity or reflexivity which is the influence the researcher has on the individuals or setting is a notable threat (Maxwell, 2005, Willis, 2007). The researcher was well aware of how their presence influenced the answers. It could be an influence for the worst or the best. The chances of negative influence are low because the researcher was attentive, genuine, and neutral in asking the question. This allowed the participants to answer openly and honestly. The participants were not presented with the conclusions the researcher had formulated. The participants were consistent in the way they answered the questions.

Internal validity is basically displaying if the study is replicable (Creswell, 2014; Maxwell, 2005; Willis, 2007). This is, if another researcher does the same study again, will they attain the same results? If this same study was repeated by another researcher and produced completely varied results, especially in a short period of time, the study would be proved unreliable (Creswell, 2014; Maxwell, 2005; Willis, 2007). This particular study can be repeated because descriptions of the process are visible throughout this thesis. External validity is basically generalizability of which the setting, population, and so on, this effect can be generalized, but it isn't so easy with qualitative research (Creswell 2014; Maxwell, 2005; Willis, 2007)?

Willis (2007) states how generalizable and replicable research is not a goal in interpretative research. He further states how replicable research is needed if generalizability is our aim, but we can have other reasons for doing research. This research on BRSS is an interpretive research as stated above in the hermeneutic phenomenology section. Internal generalizability

(Maxwell, 2005) is “conclusions within the setting or group studied”, while external generalizability is conclusions beyond the setting or group” (p.115).

The small number of participants in this study, however sufficient, doesn’t permit it to be generalized universally to all international teachers using BRSS with dyslexic students. The last chapter of this study will be conclusions from within the international school teachers’ experiences in Norway. Future participants that affirm similar results will boost the external generalizability of this study. The depth of the data received from some of the participants will also boost the generalizability; allowing future participants to overlap in experiences.

The theoretical validation to this study was presented in Chapter 2. This chapter provides the background, research from many sources, ample citations, and more.

## 3.7 Ethical Issues

There are certain procedures that need to be followed that protect the privacy and well being of the participants (Creswell, 2014; Scott & Garner, 2013; Willis, 2007). The ethical considerations for this study were influenced from Creswell (2014). This was used after the Norwegian Social Science Data Services (NSD) had approved these same considerations from the research proposal. It should be noted that the researcher underwent a change of last name from Destine to Bugge. Therefore the last name of the researcher at the time the approval letter was sent was, Destine.

Additionally, these steps were performed by the researcher and are displayed below to try and make the research a little more transparent and aid in validity.

### 3.7.1 Prior to conducting the study

Research involving humans can include confidential information and therefore obtaining permission before starting is always necessary. The University of Oslo granted approval through the institution review board NSD, to do the research. NSD actually sent a letter stating that the research being conducted did not need approval from them as it would be anonymous. The NSD letter stating such is in the Appendix. The research created a research proposal to display the core of the study to NDS. Furthermore, approval from the school

administrator was acquired. Lastly, permission from the participants was given. The site chosen was interested in the outcome of the study (Creswell, 2014).

### 3.7.2 Beginning the study

The research problem that would benefit participants was identified and the purpose of the study was disclosed. This can be confidently stated because one of the participants was interested in having more research done on the BRSS. The researcher was able to spend ample time with the first 4 levels of BRSS and grasp the initial concept. The participants were not pressed for signatures or their participation. They were allowed at any time to withdraw from the study. The norms and charters were respected. Sensitivity to the needs of the vulnerable population (e.g. children) was taken into consideration (Creswell, 2014; Scott & Garner, 2013). A full disclosure of the nature of the study, including risks, benefits, alternatives, etc was given to the participants. The participants were extended the opportunity to ask questions. Each participant was respected as persons capable of making informed decisions. Lastly, autonomy was in play to insure awareness of privacy consideration.

Beginning the study isn't simple, and knowing where to begin isn't easy. Regardless, the researcher researched many articles and books on dyslexia and searched for information on BRSS. There was an abundant amount of information on dyslexia, reading, and spelling. This was great in helping formulate the theoretical chapter. Information on BRSS was not easy to find, but what was found also helped with the theoretical chapter. Deciding how much information to provide was at the discretion of the researcher. All researchers must have the problems of balancing too much and too little information.

### 3.7.3 Collecting data

During data collection the site was respected and disruption did not occur. The researcher came after school hours or during a break period. Equality in treatment of all participants was set. The researcher contacted the participants in the same manner. Furthermore, when additional information was needed, email was the mean used for each participant. The participants were not deceived and were asked the questions that were on the interview guide (Creswell, 2014; Scott & Garner, 2013). Potential power imbalances and exploitation of participants was respected. The participants were not used, but contribution was made by providing aid (filing papers, organizing supplies, etc) and gratification gifts were issued

(Creswell, 2014; Scott & Garner, 2013). Collecting harmful information was avoided at all cost. The teachers were informed of anonymity of the interview answers. Furthermore, whenever the participants listed identifiable comments, the researcher in turn omitted them from the transcriptions and study. Only the information was taken. The security of the participants was always considered.

### 3.7.4 Analyzing Data

Neutrality was maintained and multiple perspectives were reported. This is true because contrary findings were reported along with positive results. The negative and positive sides to BRSS were presented. The researcher did not take sides, but more so honestly presented the data exactly how it was received. The privacy and anonymity of participants was respected (Creswell, 2014; Scott & Garner, 2013). This was performed by assigning each the title Teacher with a number following (e.g. Teacher 1). The confidentiality was always considered. All transcriptions and notes were generalized with "an international school" or "teacher one".

The reflective journal and all documents that aided in analysis (codes, transcriptions, etc) were all only seen by the researcher and coded with anonymity. If ever stumbled upon, a person would not be able to identify which school or which teachers were used. The researcher also read many books on analysis to better help gain an understanding.

### 3.7.5 Reporting, Sharing, and Storing Data

The report was honest and cited to the best of the researcher's ability. Plagiarism was avoided at all cost. Major chunks of information from others were cited with the owners' name. This was either before the information was listed, within the listed information, or after the listed information. Information that was heavily influenced or paraphrased was also cited. Harmful information of participants was not disclosed. The only identifiable factor is the country where the research took place. The language was clear and straightforward. Appropriate language was used throughout the paper. Data was shared with others (university supervisor, university publication).

All raw data and other materials were kept. The recordings were kept in a locked recorder. Only the researcher had access to the recorder. The transcriptions were kept on a personal computer available only to the researcher. The notes taken during the interview were kept at

the researcher's home. These notes were anonymous and filed in a place that only the researcher knew.

The materials will not be reused for others publications. If requested, complete proof of compliance with ethical issues and lack of conflict of interest will be provided. The owner of the data from the study will be stated (Creswell, 2014). The university is the owner as they will publish and keep the thesis, but the researcher is an owner as well; as the name on this thesis is that of the researcher. Four copies will be printed, one for the researcher to keep, one for the internal examiner, one for the external examiner, and one for the supervisor. This thesis will be published on the university thesis publication site. Furthermore, after publication, the raw materials will be disposed of.

# 4 Presentation of Results

The results from the data analysis will be presented in this chapter. As a refresher, this study aimed to find out how international school teachers experienced using an Orton-Gillingham influenced program, Barton Reading & Spelling System, with dyslexic students. Most of the questions focused on the experiences had by the teachers, while some focused on background information.

The sections in this chapter are themes from the coding process. Creswell (2014) says qualitative studies usually use these themes as headings in the results section. Therefore 5 headings will be presented with various points of view from the participants, including assorted quotations and supporting evidence (Creswell, 2014). Within the themes will be sub-themes to better display the findings. The goal was to shape the themes into a general description, which is phenomenology, the design of this study (Creswell, 2014; Maxwell, 2005; Scott & Garner, 2013; Willis, 2007).

The results are discussed throughout their individual themes and sub-themes. The interpretation the researcher obtained was also added throughout the themes and sub-themes. However there is a section at the end of this chapter solely for the interpretation of results.

## 4.1 Teachers' Background & Experience

This purpose of this section is to provide more information on the teachers. The goal is to introduce the individuals before their experiences are stated. This section will give quotations from responses from the teachers' educational background; their teaching experiences; their experiences with dyslexics; and the experiences they have had with BRSS.

### 4.1.1 Educational Background

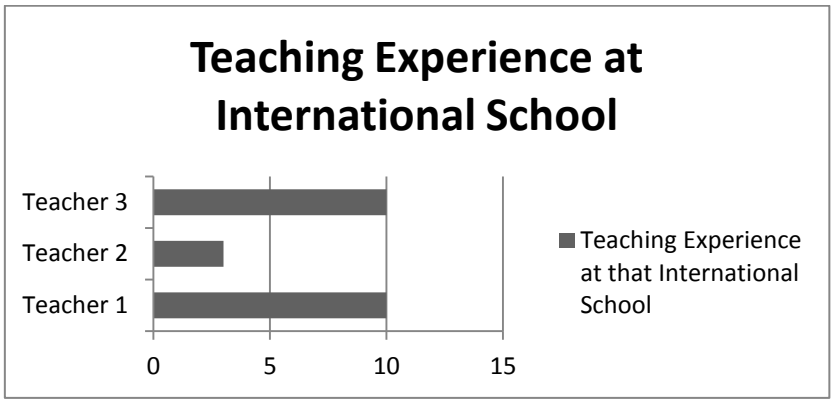
Teacher 1: *"I'm originally qualified as a teacher of the hearing impaired as an ordinary classroom teacher"*.

Teacher 2:*"I got my masters in learning disabilities. I am familiar with other Orton-Gillingham based programs"*.

Teacher 3:*"Teaching is my third career. I have a bachelor's degree in behavioral science and master's degree in special education, specializing in inclusive classroom oncology"*.

Each teacher has qualifications in varying fields, but they connect in the realm of specialized education. Teacher 1 has specific experience outside of learning disabilities and when she mentions the other programs she uses, it makes sense. She mentions those programs in a section below. A master's degree encompasses deeper acquisition of a particular field. Teacher 2 seemingly has a master's in the field of learning disability; while Teacher 3 possesses a master's in special education. Some types of learning disabilities are: auditory processing disorder (APD), dyscalculia, dyslexia, language processing disorder, ADHD, and more (Kamhi, & Catts, 2012; LDA, 2015). Some disabilities within special education are: autism spectrum disorder (ASD), speech/language impairment, deaf-blindness, specific learning disability, and more (Teach, 2015). What display this information? The aim is to familiarize the reader(s) with the teachers.

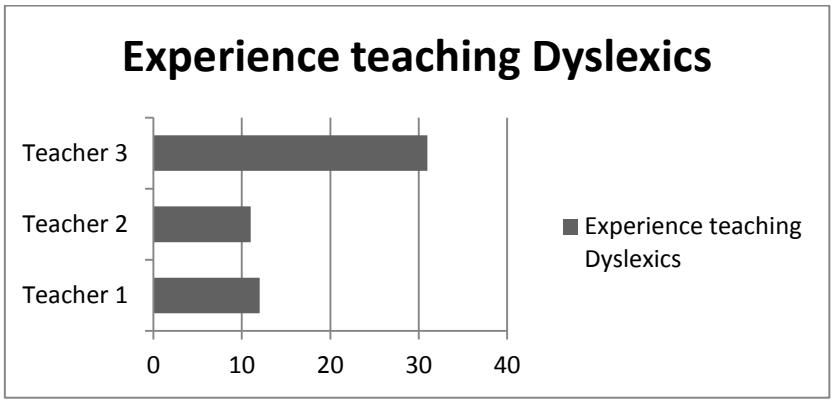
### 4.1.2 Experience with Teaching




The graph shows Teacher 1 and Teacher 3 have been at this particular international school the same amount of time: "*And then, 9 years or 10 years here"* (Teacher 1) and *"I've been here for 10 years"* (Teacher 3). Teacher 2 has only been there 3 years: *"since I started working at this school, which is 3 years"*. On top of being qualified with the hearing impaired, Teacher 1 also has varying experience with: "*Some years in a special speech and language center. I was a SENCO (special educational needs coordinator)".* Teacher 2 and Teacher 3 shared in being an educational therapist. The other experiences Teacher 2 has on her belt are: *"I have been working as a teacher in a public school. I have also been an educational therapist*". The additional experiences Teacher 3 brings are: *"I work as an educational therapist. I tutor in the*

*summer for students that I work with during the year".* The bar graph was chosen to better illustrate the numeracy of this analysis. The quotations that follow the graph are to support each teacher's experience.

### 4.1.3 Experience with Dyslexics




From the graph, it can be seen that the teachers have being working with individuals with dyslexia right from the start of their professional educational careers.

Teacher 1 affirms this by stating: *"Well probably in a way you can say right from the beginning because some of the children with hearing impairments also have other impairments as well. That would be about 12 years"*.

Teacher 2 verifies this by stating: "*I got my masters in 2004, so since 2004"*.

Teacher 3 affirms with: *"I started working with students with learning disabilities generally in about 1984".*

Experience is a very important factor, it informs us of how versed one is in any particular area. The experiences these teachers have had with dyslexics really help to gauge their responses. This section shows how long these teachers have been in their field and thus have surpassed novice. In other words, their experiences and comments are beyond valid because experience usually beats personal feelings and such. Each of these teachers has more than a decade of experience working with individuals with dyslexia. Displaying a graph was best to illustrate this numerical aspect.

### 4.1.4 Experiences with BRSS

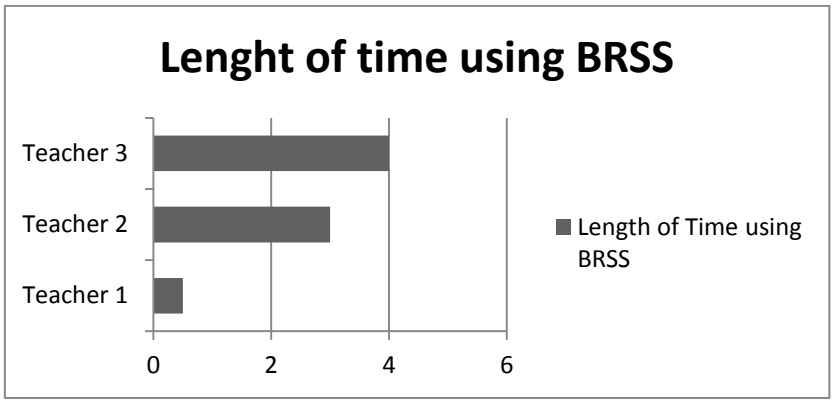
"*I thought it was very good. If I'm honest, I'm sometimes slightly nervous I've never been formally trained in it. I'm teaching myself and watching videos. I would want to do some observation as well. I think it's very good. I thought it was quite effective that year I used it"* (Teacher 1).

*"Overall my thoughts of the program are that I like it in that fact that it is organized and systematic. For me, I don't use Barton exactly as it is; I tailor it for the students. I think Barton is lacking in some areas, so I supplement. I don't think Barton is that good for reading fluency... Barton is very kind of direct and deductive and there's no way for students to come up with their own rule"* (Teacher 2).

*"I see Barton as a simplified presentation of Orton-Gillingham. It is in one way exactly what is needed for kids in those severe situations because it's systematic and its direct instruction… it's multisensory, you are developing multi-pathways for those kids. It's been exceptionally satisfactory. In some instances it has worked with kids who have multiple issues, where we're looking at kids with auditory processing issues, visual processing issues, ADHD, and linguistic integration deficit or dyslexia....It's easily trainable and that's one of the things and of course that lowers the cost of the program"* (Teacher 3).

The teachers had diverse experiences and thus differing responses, but some overlap is seen. The teachers all experienced positive outcomes with BRSS. Teacher 1 thinks "it's very good", Teacher 2 "likes it", and Teacher 3 "finds it exceptionally satisfactory". The concern seen here from Teacher 1 is that of not being "formally trained", but Teacher 3 eases that concern with stating how it is "easily trainable". The ease of training to use BRSS can also be found on the website and is also mentioned in Chapter 2. Teacher 2 and Teacher 3 agreeably stated how "systematic" and "direct" BRSS is. Teacher 2 likes the "organized" setup of BRSS, but also finds it to be deductive. BRSS is seen as "simplified presentation of OG", from Teacher 3's perspective. This section was to simply give the experiences the teachers had, and leave the rest to the readers' own interpretation. That is why chunks of quotations from the teachers are presented.

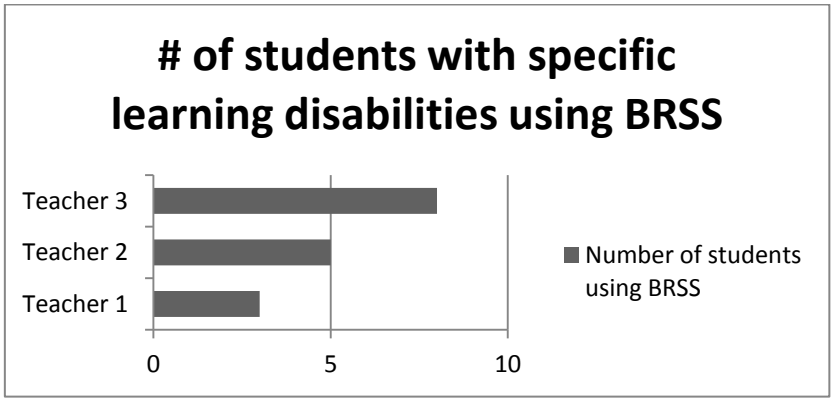
### 4.1.5 Length of BRSS Usage with students




This section shows how much experience they have had with BRSS. The bar graph again is used for visual numeracy. Each teacher, as previously stated, has experienced and used the program in different lengths and ways. This is seen by how Teacher 1 does not change, add much, or have many neutral comments/experiences when it comes to BRSS: *"I have only used the level 1, the phonemic awareness level. I did it probably half year"*. Teachers 2 & 3 on the other hand have more experience and have a well-rounded and sober outlook of BRSS. The aim of this analysis is to display time frame.

> *"Since I started working at this school, which is 3 years. I occasionally still use it"* (Teacher 2).
>
> *"I've been using Barton for 4 years"* (Teacher 3).

Displaying the length each teacher has experienced with BRSS will come in handy when looking at their other responses. Teacher 1 has only experienced level 1 and that experience only lasted half of a year. Teacher 3 has the longest experience with using BRSS, with Teacher 2 just one year behind her.



It has been previously stated that BRSS can be used for all learners, not just those diagnosed with a specific reading or spelling difficulty. The graph above depicts the numerical aspect to this analysis. It shows how many of the students these teachers had, actually having said difficulties. In supporting the graph, below are the quotations from the teachers.

"*I used the Barton with 3 students the year before last (not here last year)"* (Teacher 1).

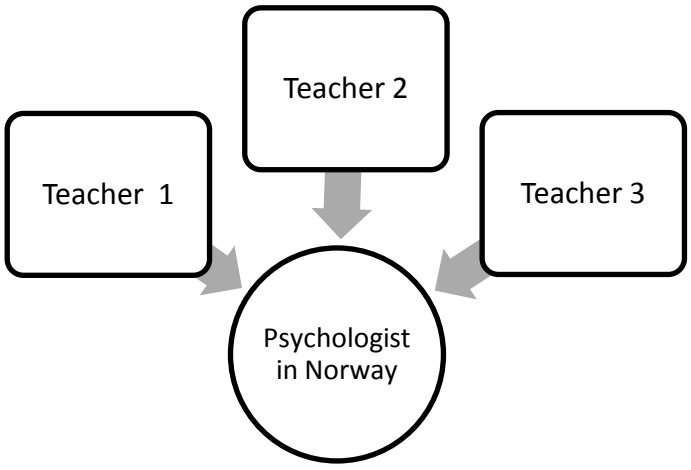
*"I have used Barton with about 5 students that have had a "dyslexia" diagnosis"* (Teacher 2).

*"I have worked with many students, ranging in age from 7 to 16 over the last four years using the Barton program"* (Teacher 3).

This evidence shows that Barton was not just used on one or two students, but several. The greater the number, the greater the chances are of it having similar outcomes for many. This is not to say it generalizes results because dyslexia is an individual phenomenon, but gives a framework. Furthermore, not a great deal of experience can be extracted from this number, but experience is experience, regardless of the number.

## 4.2 Dyslexia Diagnosis & Views

### 4.2.1 Diagnosis




The teachers all merged with how some students get diagnosed at their school. This is depicted in the graph above. The researcher wanted to illustrate the diagnosis in a chart because it seems more visually appealing. The aim was to find out if the students were

diagnosed; or whether the teacher themselves or parents were concerned; leading to intervention.

Teacher 1 stated:

> "*The psychologist we mostly get evaluations from here in Norway uses specific reading, or specific spelling, disorder as a common diagnosis. Some of the Norwegian ones still use the 'dysleksi' word in diagnosis"*

Teacher 1 is saying her students were diagnosed by psychologist and those psychologists use the term specific reading or specific spelling disorder. The BDA (2007) and Lyon, Shaywitz, & Shaywitz (2003) as previously stated, both use specific in describing dyslexia too.

Teacher 2 stated: *"Some students get diagnosed in their home countries or with a psychologist in Norway that can administer the tests in their mother tongue".*

Teacher 2 states the same thing as Teacher 1, which is good because they teach in the same school, so consistency is in place. She just adds how some students come pre-diagnosed from their home countries.

Teacher 3 stated:

> *"Services at this international school are determined by student need and as such some students receive remediation without a formal diagnosis by a licensed specialist i.e., clinical psychologist, psychiatrist, educational psychologist...etc".*

Teacher 3 also mentions psychologist, but also adds that some students aren't formally diagnosed. That it is by need and any students exhibiting said needs are given the aid.

This section reminds us that schools need experienced individuals to better help identify needs that students have. This will help foster the appropriate aid that student needs to succeed in life, in education. It is not surprising that some of the students using BRSS haven't been formally diagnosed; many schools pre-diagnose students before they have actually been diagnosed by a licensed and experienced diagnostician. Furthermore, BRSS doesn't have to only be for those diagnosed with reading or spelling difficulties, it can also be for those who simply struggle and need more help with it.

### 4.2.2 Their Definitions or Views of Dyslexia

Teacher 1 views dyslexia as:

> *"When I was working in the UK (left in 2004) it was still a common diagnosis in paperwork, but was very open to interpretation. Dyslexia is a kind of blanket, 'popular' term used in the media increasingly, which gets away from the specifics of it and I think that's also why it is used less and less in evaluations. I define dyslexia as the difficulty of the acquisition of reading skills (decoding) due to a processing deficit (most usually due to a phonological processing deficit). There should be a discrepancy between the person's intelligence and reading skills"*

Teacher 1 states how many use the term dyslexia to cover the specific aspects of it. This is the same reason she believes the term itself is being used less and less in evaluations, because there a specifics within the difficulty. Her definition overlaps with some points from all three definitions presented in the Defining Dyslexia section (BDA, 2007; Lyon, Shaywitz, & Shaywitz, 2003; Reid, 2009). The point about discrepancy between intelligence and reading skills is also presented in the Dyslexia Signs section (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Thomson, 2009).

Teacher 2 views dyslexia similarly to Teacher 1 but elaborates:

> *"I define dyslexia as the difficulty of acquiring reading skills (mainly decoding) due to a processing deficit (most usually due to a phonological processing deficit). There should be a discrepancy between the person's intelligence and reading skills. In the US, they would be given a Specific Reading Disorder diagnosis. I consider dyslexia to be a subset of a specific reading disorder. I actually never used the term "dyslexia" until I started to work at this international school. In the US, we use the term "specific reading disorder."*

Her definition, as stated above, overlaps with some points from all three definitions presented in the Defining Dyslexia section (BDA, 2007; Lyon, Shaywitz, & Shaywitz, 2003; Reid, 2009). The point about discrepancy between intelligence and reading skills, as stated above, is also presented in the Dyslexia Signs section (Catts, Kamhi, & Adlof, 2012; Nijakowska, 2010; Thomson, 2009). Teacher 2 also talks about the term dyslexia itself and how specific reading was what it was termed. Her view of dyslexia is deeper than it is portrayed when just

termed dyslexia. A term she didn't start using until she started working at this particular international school.

Teacher 3 shares many of the same feelings with the term dyslexia and defines it as:

> "*The term dyslexia, at this time, is not a clinical term but a layman's term that labels a group of observable behaviors associated with difficulties with the acquisition and development of reading. I do my up most not to use the term, but prefer to use terms that are more in line with clinical diagnostic terminology. When working with any student that is demonstrating specific behaviors associated with difficulties with the acquisition and development of reading many, many avenues of inquiry need to be taken before a remediation specialist jumps into any "program".*

Teacher 3 is always giving us the inside scoop on her views, thoughts, and comments. Similar to the previous teachers, Teacher 3 also sees the term of dyslexia itself as a cop out. She hits on literacy acquisition and cognitive processing, like the three definitions in the Defining Dyslexia section (BDA, 2007; Lyon, Shaywitz, & Shaywitz, 2003; Reid, 2009). Similar to the other teachers she prefers not to use the term, but more so focus on the specifics.

In Chapter 2 dyslexia is defined taking definitions from three different sources, four if the BRSS definition counts. The way these teachers define dyslexia just adds to the previously mentioned fact that dyslexia is defined differently by many. They all view dyslexia as a complex and not easily definable condition. The term dyslexia is misrepresented and envelops the intricacies that encompass dyslexia. It is too general, where the disability is very specific.

This section has been rather enlightening. Throughout this study the researcher has used the term "dyslexia", countless times. This of course was not to cover up any aspects within the broadness of dyslexia, but more so to encompass all. This can be seen in Chapter 2 and the intricate ways dyslexia has been dissected. Nevertheless, the usage of the term dyslexia will forever be used differently after analyzed the views from these three teachers combined with the definitions from the BDA (2007) and Lyon, Shaywitz, & Shaywitz (2003).

## 4.3 Affects of Barton Reading & Spelling System

Teacher 1 seems to bring a positive outlook on BRSS. It is unclear if this is because she has the least experience, nevertheless, her response to the affects of the program were:

*"It's made it more tangible for them to learn about phonemic awareness. The whole thing with the blocks and it's multisensory in a way that probably nothing else quite is. Well nothing else I've worked with is".*

Teacher 1 states how BRSS is a unique program. She also states how the students she had using BRSS benefited in learning about phonemic awareness (Apel, Masterson, & Brimo, 2012; Catts, Kamhi, & Adlof, 2012; Reid, 2009; Sprenger-Charolles, Cole, & Serniclaes, 2006). This is very interest and quite contrary to what Teacher 3 said. This could be because she had students who didn't need as much phonemic awareness help as Teacher 3 did.

Teacher 2 had more to say about BRSS affects on her students. Her additions to this inquiry were:

"*Some like it in fact they like the predictability and the structure because they know what to expect. Some students do really well and other students get really bored. I've had some students that said, "no you're killing me with this". Because they're the ones who need stimulation and if every lesson is the same, they are going to just basically get turned off. So it depends on the student really. So that's why it's nice to have it as a foundation, but not only that.*

Teacher 2 always seems to speak objectively of the program. She addresses the individuality in individuals again. Some of her students like the structure of BRSS (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000), while others fine it too structured or and not stimulating (Nijakowska, 2010; Reid, 2009; Westby, 2012).

Teacher 3 adds her additions:

*"Using Barton has made pronounced and profound improvements in all students I've worked with except for 2. Both of those individuals have had complicated learning issues".*

Teacher 3 promotes BRSS because it had a positive effect on mostly all of her students. She further elaborates why it didn't work on all of her students. Seemingly BRSS works only on the surface of learning issues and deep within for complicated/complex issues.

What can be gathered from this section is that regardless of the user of BRSS, it will have an effect. According to the informants, it will affect every person differently and those with deeper issues, this will not work.

## 4.4 Changes to Barton Reading & Spelling System

Teacher 1 had the least experience with the program, but she still added to it:

> "*In terms of support lessons, yes I did lots of other things as well, but that could be because I was at that stage, the phonemic awareness stage. I was doing a lot of games and they were young children as well".*

Teacher 1, like the rest of the teachers has experience with BRSS and was able to provide information of analysis purposes. This direct quote from her shows her positive outlook on the program. The addition of games is a multisensory twist, to a seemingly multisensory program. Multisensory teaching is considered important for those with dyslexia (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000). Games stimulate over-learning and interest (Nijakowska, 2010; Reid, 2009; Westby, 2012), but also hints on the effective classroom practice that implements individual learning styles (BDA, 2007; Lyon, Shaywitz, & Shaywitz, 2003; Reid, 2009). Teacher 1 however did not make any alteration to the program: "*No I did exactly as she said".*

Teacher 2 had a lot more to say about her additions to the program:

> *"Sometimes when I see a concept that's going to be introduced, sometimes I'll add a word sort to focus on the inductive reasoning part that I don't think Barton has. …there's no way for students to come up with their own rule. So I add that as well, so that they can make their own meaning for the rule, for the word sort".*

Teacher 2 takes the individualized focus to her additions, clearly visible from this quote. She wants the students to be able to create their own meanings for the words in which they learn. Earlier, in the dyslexia definition section, Reid (2009) hits on the individual characteristic of dyslexia as well. Word sorts are helpful for beginning and struggling readers and "can develop automatic and fluent reading of word families with repeated practice" (ReadWriteThink, 2015). This hints on the over-learning aspect again (Nijakowska, 2010; Reid, 2009; Westby, 2012), automaticity (Apel, Masterson, & Brimo, 2012; Nijakowska,

2010; Reid, 2009; Snowling, 2000), and memory (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000).

Teacher 2 definitely made changes when using the program:

> *"For me, I don't use Barton exactly as it is; I tailor it for the students. I think Barton is lacking in some areas, so I supplement. I don't think Barton is that good for reading fluency. I will take a passage that they have in Barton and I will treat that passage as if it's used for repeated readings and oral readings and I add that in for reading fluency".*

This quote shows the flaws or shortcomings of the program. It is great to display this because it gives the study an objective outlook, not for or against. It also shows the researchers is not biased or subjective (Creswell, 2014; Maxwell, 2005; Willis, 2007).

The changes and additions Teacher 3 made to the program are:

> *"I make alterations as I go, but…someone without my training I wouldn't recommend it. I am very confident about any changes I make. So if it's phonemic awareness that we're dealing with, we use Lindamood-Bell on top of the Barton. If…its phonological difficulties along with writing development or thought integration or reading comprehension…we add those in. so it's not just Barton".*

Teacher 3 speaks from an array of experience. She asserts that those without experience similar to hers should not change the BRSS while using it. In addition to using BRSS, she adds Lindamood-Bell because it deals better with phonemic awareness acquisition, with is a very important factor (Apel, Masterson, & Brimo, 2012; Nijakowska, 2010; Reid, 2009; Snowling, 2000). She goes on further to mention she doesn't just use Barton; similar to Teacher 1 who see the flaws or shortcomings of BRSS.

We can gather that BRSS is not the answer for all issues related to reading and spelling difficulties. Most of the teachers alter BRSS to best fit the students they teach and the outcome they want. Apparently, BRSS is not the best to help with reading fluency, phonemic awareness, writing development, thought integration, or reading comprehension (Teacher 1 & Teacher 2). Furthermore, each teacher had different ways of adding and/or changing BRSS

usage. Undoubtedly, this is because every individual is different and they used BRSS with students who all reacted differently.

### 4.4.1 Other Programs Used

These methods that will be mentioned by these teachers have been briefed in Chapter 2, following the presentation of BRSS.

> *"I use a method called 'Cued Articulation' it's actually Australian I think. It seems to be very similar to the 'LiPS' thing from the States. It's very focused about how we make sounds. So with the younger children who aren't ready for Barton, I do a lot of work with Cued Articulation. They have a sign or symbol for each sound and it's a lot of focus on them making sound and identifying sounds"* (Teacher 1).

> *"I've Wilson, I've used Slant and those are the Orton-Gillingham programs, but I've also used Lindamood-Bell programs of LiPS in visualizing and verbalizing. They also have a Seeing Stars one and I haven't really used it much but again sometimes it's just the materials, like what they have"* (Teacher 2).

> *"It depends on what the student needs. If the student shows difficulty in phonemic awareness, then we go to LiPS. LiPS hits over 80% of having a positive impact for most. That was a long time ago, but that was research then. It does the trick at any age; in primary as well as secondary students"* (Teacher 3).

The connections that can be drawn are that the teachers all use LiPS, an approach within Lindamood-Bell. Teacher 1 also uses Cued Articulation, while Teacher 2 adds using Wilson, Slant, and Seeing Stars. They all use multiple methods and programs to better teach individuals who have learning disabilities or difficulties. It just shows how using whatever tools you can to help students is always a good practice. Deeper discussion of the programs will not be listed due to the fact they were elaborated upon in Chapter 2.

## 4.5 Personal Views of BRSS

> *"Yeah would recommend it. I think its maybe not for everybody. The thing that I see as a disadvantage with it is it takes a long time. It's very very intensive. I think with a large percentage its worth investing the time. But it's a lot of time to invest in that set*

> *of skills. It's not a drawback because it's good whatever they've done of it"* (Teacher 1).

Teacher 1 reiterates how BRSS is not for every individual. Reid (2009) mentions how dyslexia is an individual phenomenon. BRSS is seen as "time consuming, but worth the time. Is it time consuming because as new user it seems that way? At first, BRSS does come off rather overwhelming, but confidence and ease is gained with longer usage (seen in Teacher 2 and Teacher 3). Teacher1 also hints on the educator aspect to BRSS and how it's not entirely ideal. She also mentions why Barton isn't more mainstream: "*It's expensive to do it. It's one-to-one, it's long term. I've never seen it used mainstream in my mainstream jobs".* If educators are thinking of doing group lessons with BRSS, they should think twice: *"Also it's ideally really met for one-to-one and we do groups. So then you have to compromise between the needs of the different students".* This creates difficulties where they have to compromise on how far in the program they should go.

Teacher 2 contradicts Teacher 1's comment on the financial part of Barton. Her reason is, unlike many other programs that must be purchased in its entirety, BRSS can be purchased in chunks. On the BRSS website, the levels start at $250 USD and go up to $300 USD. A school under a strict budget would not perceive BRSS as "cheap". The advantage of buying it in sections can lessen the cost when it comes to budgeting.

> *"I would recommend it. The nice thing about Barton is that it's cheap. You can buy it in levels. You don't have to buy the whole thing at once. In terms of acquiring materials, I think it's easier to acquire"* (Teacher 2).

Teacher 2 mentions her views/opinions on the creator of BRSS:

> *I consider Susan Barton a designer. She made and merchandised a project and is selling it. So I don't consider her as someone who knows everything there is about learning disabilities. She knows one area and she knows it well. And the problem with that is that she cannot give a broad understanding of a child, it's very narrow. And if it works for the kid great, but if you only teach people in this one area, then they may not see the child holistically.*

It was evident in the previous quotations from Teacher 2 that she sees BRSS through a microscopic lens; seeing all it has to offer, and all of its shortcomings. When the term

designer is thought of, a person who plans the look and how something will be made is thought of. The term specialist on the other hand is superior in the field of education. Specialists are thought to be experts in their field. Teacher 1 does not see Susan Barton as a specialist. Should individuals been seen holistically? According to Teacher 1, the BRSS does not accomplish that with it methods.

Teacher 3, unlike the other two teachers, did not give a direct yes for recommendation.

> *"Not always. I think you have to choose what you do when you remediate a student's learning issue is determined by those students' need. And not every student is going to need a systematic program similar to Barton. We only use Barton when we deem it necessary"* (Teacher 3).

Does every student need systems? As Teacher 3 points out, BRSS is only used when necessary. Teacher 3 states that BRSS is good, but it doesn't work that well: "*I think the only downside of Barton, it's difficult to have something that's good and that works well".*

Similar to Teacher 2, Teacher 3 gives her opinions/views about the BRSS creator:

> *"She promotes it as "the fixer", "that this will do it", "this will fix dyslexia" and that's plan Bull**** and I have a problem with that personally". It appears to me when I look at her promotions as a "quick fix" or "the ultimate fix".*

Why does Teacher 3 seem so offended by promotion of BRSS? The BDA (2007) tackles this very point in presenting their definition with the eternal strand of dyslexia being "life-long". Therefore, there is not a cure so to speak for dyslexia. Additionally, designers can promote and try to fix problems they see.

## 4.6 Interpretation of Results

The goal of this study was to highlight the experiences international school teachers had in teaching students with dyslexia with using the Barton Reading & Spelling System.

Regardless of the varying experience, each teacher contributes something. A teacher with long experience provides consistency. A new teacher brings freshness. A teacher in the middle provides balance. The perspectives taken from these three provided ample data. The

qualitative nature of this study leaves room for flexibility and therefore, plenty of quotes were used.

In the continuation of validating this study, the final step is to interpret the findings or results (Creswell, 2014; Maxwell, 2005). This is the process of stating what lessons were learned. The lessons learned can be derived from the researcher's interpretation. This can be attained by comparing the findings with information from literature or even theories (Creswell, 2014). This helps in validation because it shows how the findings substantiate the literature. It also opens the door to new questions that may surface, questions that were not anticipated. These questions are elevated through the data analysis (Creswell, 2014).

The findings were interpreted within the display of results. The researcher's reflections and interpretation along with literature comparisons were placed within the findings as well. Most of the headings have interpretation, varying in length. There were no new questions that surfaced while interpreting the results.

# 5 Conclusion

This thesis aimed to dive into one strand of the learning disabled word, dyslexia. The goal was for an interpretative and informative study. This was so that educators, parents, siblings, and like, could get a deeper insight into Barton Reading & Spelling System and its effects on students with dyslexia. The experiences were taken from international school teachers who themselves had students with dyslexia.

This chapter will simply serve to recap the findings and lessons learned. Moreover, the limitations from this study will be presented in this chapter and suggestions for future studies will also be mentioned.

## 5.1 Summary

The data revealed that the experiences were varied and that BRSS could be used as an aid for those struggling with reading and spelling.

Barton is, in the words of these teachers, systematic, very structured, builds multi-pathways, effective, very intensive, multisensory, time consuming, not for everyone, one-to-one, long term, organized, not that good for reading fluency, direct, deductive, satisfactory, easy trainable, flawed, and created by a designer. Additionally, BRSS comes off as a fixer for dyslexia and as stated before, dyslexia can't be cured. Barton is not used an emergency program, but more so a foundation and only used if necessary. It takes away from holistic teaching. It's a simplified presentation of Orton-Gillingham.

The ways in which BRSS could and has affected students will vary. For these teachers' students' the results were various. It can be and was tailored for students, giving it an individualized strand. BRSS does not allow students to come up with their own rule for the word sorts. It is also not the strongest method to teach phonemic awareness. Individuals who like predictability will love it. Individuals who need stimulation will get turned off. Individuals with complicated learning issues might not really benefit from BRSS. Students from a wide age range can use BRSS. Students who need help with reading fluency may not benefit from BRSS.

## 5.2 Suggestions for Future Studies

Awareness needs to be raised about dyslexia, the terminology, and adaptations in teaching practice. The results from this study illustrate this and by providing courses that put an emphasis on these things, can acquire it. The limitations from this qualitative study where: the small sample size, the method of data collection, and teacher bias.

The small sample, however adequate in providing rich data, cannot be used to generalize to the entire realm of international school teachers and students dealing with dyslexia, or students dealing with dyslexia in Norway in general. Therefore, expanding the sample size would give reason to better generalize the results.

Another limiting factor was the method of data collection. Acquiring observations would have further strengthened the study. Observations were considered, but the sensitivity of the data to be collected was too great, therefore the researcher chose an alternate route. Furthermore, many of the students' parents in these international schools which to keep anonymous. The researcher did not which to disturb or disrupt anyone life by imposition.

Thirdly, these experiences are from these teachers. It cannot be ruled out that these teachers' responses were biased. This is true because their perspectives were given, fairly and true to the point, but still their perspectives. The perspectives from the students are not marked. It is possible that the students perceive BRSS completely different than their teachers. Additionally, observing the students and teachers in action would have given direct proof to the researcher and cleared room for subjectivity.

Nonetheless, the study still served its purpose in shedding light on how teacher experience BRSS with dyslexic students. It shows the concern and passion these teachers have for their students and field. It also displays how BRSS is not the only program out there.

Furthermore, the study served its purpose and having teachers with a vast number of students using BRSS, more research is not necessary. It was evident that the student's needs were taken into account, their interests and their learning styles. Nonetheless, we cannot simply close the door on this. The students own outlook needs to be thrown into the mix before one can simply say all that was said by the teachers. After acquiring both sides of the situation, then can a well-rounded view of BRSS, in the way it affects the students, be given.

In conclusion, the research acquired plenty new knowledge in conducting this study. The process of putting everything together was not easy, but perseverance pays off. A deeper understanding of learning disabilities has been attained. The programs that were mentioned in this study were all new to the researcher as well. The advantage of this is being able to have the opportunity to use those methods in the future. Chapter 2 took the longest time to complete. The process of locating and reading multiple sources and deciding what to write was laborious. Chapter 2 also required the most revisions and was the first chapter to be written in this thesis. Chapter 3 was not entirely grasped by the researcher, but vast array of sources out there aided in helping to put it together. The chapter the research surprisingly enjoyed the most was Chapter 4. This is because visuals graphs and charts were put in place. The initial charts and graphs were in color, but later changed to grayscale to give the analysis and thesis and overall professional feel. The strongest learning style of the researcher is visual.

# References


Academy of Orton-Gillingham Practitioners and Educators. (2012). *The approach*. Retrieved from http://www.ortonacademy.org/approach.php

Amazon. (1996-2014). Customer reviews. Retrieved from http://www.amazon.com

Barton Reading and Spelling System. (2014). *Barton system.* Retrieved from https://www.bartonreading.com/index.html

Barton Reading and Spelling System. (2014). *Demo*. Retrieved from http://www.bartonreading.com/demovideopage.html

Barton Reading and Spelling System. (2014). *Dyslexia*. Retrieved from http://www.bartonreading.com/dys.html

Barton Reading and Spelling System. (2014). *Single tutor version*. Retrieved from http://bartonreading.com/store/page2.html

Barton Reading and Spelling System (2014). *Scope and sequence*. Retrieved from http://www.bartonreading.com/scope.html#scope

Bright Solutions for Dyslexia, Inc. (2014). *How to get help*. Retrieved from http://www.dys-add.com/getHelp.html#anchorOrton

Bright Solutions for Dyslexia, Inc. (2014). *What is dyslexia*. Retrieved from http://www.dys-add.com/dyslexia.html#anchorDefinition

Creswell, J.W. (2014). *Research design: Qualitative & mixed method approaches*. London, England: Sage.

Frith, U. (1985). Beneath the surface of developmental dyslexia. In K. E. Patterson, J. C. Retrieved from http://www.icn.ucl.ac.uk

Giess, S. (2005). *Effectiveness of multisensory, orton-gillingham influenced approach to reading intervention for high school students with reading disability.* (Doctoral dissertation, University of Florida).

Grbich, C. (2013). *Qualitative data analysis: An introduction.* Los Angeles, CA: Sage.

Helping Every Child to Read. (2014). User reviews. Retrieved from http://www.helpingeverychildtoread.com

IASL Meeting Place. (2009). How to define an international school. Retrieved from http://iaslonline.ning.com

Institute for Multi-Sensory Education. (2014). *Why orton-gillingham?* Retrieved from http://www.orton-gillingham.com/frmProfessionalDevelopment.aspx

Institute for Multi-Sensory Education. (2014). *About us.* Retrieved from http://www.orton-gillingham.com/about-us/

International Baccalaureate. (2015). *Primary years program.* Retrieved from http://www.ibo.org/en/programmes/primary-years-programme/

Kamhi, A.G. & Catts, H.W. (2012). Assessing and remediating text comprehension problems. In C.E. Westby (Eds.), *Language and reading disabilities* (pp. 163-225). Boston, MA: Pearson.

Kamhi, A.G. & Catts, H.W. (2012). Causes of reading disabilities. In H.W. Catts, A.G. Kamhi, & S. M. Adlof (Eds.), *Language and reading disabilities* (pp. 77-111). Boston, MA: Pearson.

Kamhi, A.G. & Catts, H.W. (2012). Defining and classifying reading disabilities. In H.W. Catts, A.G. Kamhhi, & S. M. Adlof (Eds.), *Language and reading disabilities* (pp. 45-76). Boston, MA: Pearson.

Kamhi, A.G. & Catts, H.W. (Eds.). (2012). *Language and reading disabilities* (3rd ed.). Boston, MA: Pearson.

Kamhi, A.G. & Catts, H.W. (2012). Spelling assessment and intervention: A multiple linguistic approach to improving literacy outcomes. In K.Apel, J.J. Masterson, & D. Brimo (Eds.), *Language and reading disabilities* (pp. 226-243). Boston, MA: Pearson.

Learning Disabilities Association of America. (2015). *Types of learning disabilities*. Retrieved from http://ldaamerica.org/types-of-learning-disabilities/

Lexicon Reading Center. (2015). *What is multisensory teaching techniques*. Retrieved from http://www.lexiconreadingcenter.org/what-is-multisensory-teaching-techniques.html

Lindamood-Bell. (2015). *Lips*. Retrieved from http://lindamoodbell.com/program/lindamood-phoneme-sequencing-program

Lindamood-Bell. (2015). *On cloud nine: Math program*. Retrieved from http://lindamoodbell.com/program/on-cloud-nine-math-program

Lindamood-Bell. (2015). *Our approach*. Retrieved from http://lindamoodbell.com/our-approach

Lindamood-Bell. (2015). *Seeing stars program*. Retrieved from http://lindamoodbell.com/program/seeing-stars-program

Lindamood-Bell. (2015). *Talkies*. Retrieved from http://lindamoodbell.com/program/talkies-program

Lindamood-Bell. (2015). *Visualizing and verbalizing program*. Retrieved from

http://lindamoodbell.com/program/visualizing-and-verbalizing-program

Lyon, G.R., Shaywitz, S.E., & Shaywitz, B.A. (2003). Defining dyslexia, comorbidity, teachers' knowledge of language and reading: A definition of dyslexia. *Annals of Dyslexia*, (1-9).

Landerl, K., Wimmer, H. & Frith, U. (1997). Surface dyslexia. In. Marshall & M. Coltheart (Eds.), *The impact of orthographic consistency on dyslexia: A German-English comparison*. London: Routledge & Kegan Paul.

Maxwell, J. A. (Eds). (2005). *Qualitative research design: An interactive approach*. (2nd ed.). Thousand Oaks, CA: Sage.

Merriam-Webster. (2014). *Challenging*. Retrieved from http://www.merriam-webster.com

Merriam-Webster. (2014). *Potential*. Retrieved from http://www.merriam-webster.com

Mihandoost, Z. & Elias, H. (2011). The effectiveness of the barton's intervention program on on reading comprehension and reading attitude of students with dyslexia. *Iran J Psychiatry Sci, 5*(2).

National Reading Panel. (2006). Alphabetics: Part II, phonics instruction. Retrieved from https://www.nichd.nih.gov

Nijakowska, J. (2010). *Dyslexia in the foreign language classroom*. Buffalo, NY: Multilingual Matters.

Peer, L. & Reid, G. (2003). *Introduction to dyslexia*. London, England: David Fulton.

ReadWriteThink. (2015). Word sorts for beginning and struggling readers. Retrieved from http://www.readwritethink.org

Reid, G. (Ed.). (2009). *Dyslexia: A practitioner's handbook* (4th ed.).West Sussex, UK: John Wiley & Sons.

Scott, G. & Garner, R. (Eds.). (2013). *Doing qualitative research: Designs, methods, and techniques.* (1st ed). Boston, MA: Pearson.

Snow, E. C., Burns, S. M, & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

Snowling, M. J. (2000). *Dyslexia*. Oxford, UK: Blackwell.

SoundsforLiteracy. (2015). *Cued articulation application*. Retrieved from http://www.soundsforliteracy.com.au/application.html

SoundsforLiteracy. (2015). *Cued articulation*. Retrieved from http://www.soundsforliteracy.com.au/index.html

SoundsforLiteracy. (2015). *What is cued articulation*? Retrieved from http://www.soundsforliteracy.com.au/cued-articulation.html

Sprenger-Charolles, Cole & Serniclaes. (2006). *Reading acquisition and developmental dyslexia.* New York, NY: Psychology Press.

Strauss, A & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.

Sullivan, P. (2012). *Qualitative data analysis: Using a dialogical approach.* Thousand Oaks, CA: Sage.

Teach. (2015). *What is special education?* Retrieved from http://teach.com/what-is-special-education

The British Dyslexia Association (2007). *Definitions*. Retrieved from http://www.bdadyslexia.org.uk/dyslexic/definitions

The British Dyslexia Association (2015). *Indications, hints, and tips: Pre-school*. Retrieved from http://www.bdadyslexia.org.uk/educator/pre-school-hints-and-tips

The British Dyslexia Association (2015). *Indications, hints, and tips: Primary*. Retrieved from http://www.bdadyslexia.org.uk/educator/hints-and-tips-primary

The International Dyslexia Association. (2014). *Hall of honor*. Retrieved from http://eida.org/hall-of-honor/

The International Dyslexia Association. (1996-2007). *What is dyslexia?* Retrieved from http://www.interdys.org/FAQWhatIs.htm

The Schenck School (2015). *The orton-gillingham approach to dyslexia*. Retrieved from http://www.schenck.org/the-orton-gillingham-approach-to-dyslexia/index.aspx

Thomson, M. (Eds.). (2009). *The psychology of dyslexia: A handbook for teachers (2nd ed.).* West Sussex, UK: John Wiley & Sons.

TIE Online. (2011) The International Educator: What makes a school international? Retrieved from http://www.tieonline.com

Willis, J.W. (2007). *Foundations of qualitative research: Interpretive and critical approaches.* London, UK: Sage.

Wilson Language Training. (2004-2010). *The wilson history*. Retrieved from http://www.wilsonlanguage.com/FS_ABOUT_MainPage.htm

# Appendix 1: NSD Letter (Front)

**Norsk samfunnsvitenskapelig datatjeneste AS**
NORWEGIAN SOCIAL SCIENCE DATA SERVICES

Harald Hårfagres gate 29
N-5007 Bergen
Norway
Tel: +47-55 58 21 17
Fax: +47-55 58 96 50
nsd@nsd.uib.no
www.nsd.uib.no
Org.nr. 985 321 884

Gunvor Dalby Vea
Institutt for spesialpedagogikk Universitetet i Oslo
Postboks 1140 Blindern
0318 OSLO

Vår dato: 29.08.2014 Vår ref: 39381 / 3 / KH Deres dato: Deres ref:

TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 04.08.2014. Meldingen gjelder prosjektet:

| | |
|---|---|
| *39381* | *Barton Reading & Spelling System: The experience for international teachers in Norway with students with dyslexia* |
| *Behandlingsansvarlig* | *Universitetet i Oslo, ved institusjonens øverste leder* |
| *Daglig ansvarlig* | *Gunvor Dalby Vea* |
| *Student* | *Sharline Destine* |

Etter gjennomgang av opplysninger gitt i meldeskjemaet og øvrig dokumentasjon, finner vi at prosjektet ikke medfører meldeplikt eller konsesjonsplikt etter personopplysningslovens §§ 31 og 33.

Dersom prosjektopplegget endres i forhold til de opplysninger som ligger til grunn for vår vurdering, skal prosjektet meldes på nytt. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/meldeplikt/skjema.html.

Vedlagt følger vår begrunnelse for hvorfor prosjektet ikke er meldepliktig.

Vennlig hilsen

Katrine Utaaker Segadal

Kjersti Haugstvedt

Kontaktperson: Juni Skjold Lexau tlf: 55 58 36 01
Vedlegg: Prosjektvurdering
Kopi: Sharline Destine sharlinedestine@gmail.com

# Appendix 2: NSD Letter (Back)

**Personvernombudet for forskning**

Prosjektvurdering - Kommentar

Prosjektnr: 39381

Based on the information we have received about the project, the Data Protection Official cannot see that the project will entail a processing of personal data by electronic means, or an establishment of a manual personal data filing system containing sensitive data. The project will therefore not be subject to notification according to the Personal Data Act.

We have based our decision on the fact that no background information will be registered (name of school, what part of the country the school is situated etc). We have not received an interview guide that describes what kind of questions will be asked, so this decision is only based on what the student have written in the Notification form (Meldeskjema) and Information letter.

The Data Protection Official presupposes that all information processed using electronic equipment in the project is anonymous.

Anonymous information is defined as information that cannot identify individuals in the data set in any of the following ways:
- directly, through uniquely identifiable characteristic (such as name, social security number, email address, etc.)

- indirectly, through a combination of background variables (such as residence/institution, gender, age, etc.)
- through a list of names referring to an encryption formula or code, or
- through recognizable faces on photographs or video recordings.

Furthermore, the Data Protection Official presupposes that names/consent forms are not linked to sensitive personal data.

# Appendix 3: Scope and Sequence of BRSS

This List can be found on the Barton Reading and Spelling webpage. Barton (2014):

| **Level 1: Phonemic Awareness** | |
|---|---|
| **Lesson 1:** | CV and VC nonsense words |
| **Lesson 2:** | CVC nonsense words |
| **Lesson 3:** | VCC nonsense words |
| **Lesson 4:** | CCV nonsense words |
| **Lesson 5:** | Rhyming & Real Words |

| **Level 2: Consonants & Short Vowels** | |
|---|---|
| **Lesson 1:** | A, B, F, M, P, S, T |
| **Lesson 2:** | I, C, G, H, L, N, R |
| **Lesson 3:** | O, D, J, K, V, Z |
| **Lesson 4:** | U, W, X, Y, QU |
| **Lesson 5:** | E, SH, TH, CH, WH, CK |

| **Level 3: Closed & Unit Syllables** | |
|---|---|
| **Lesson 1:** | Blends at the End |
| **Lesson 2:** | Blends at the Beginning |
| **Lesson 3:** | Blends at Both Ends |
| **Lesson 4:** | Digraph & 3-Letter Blends |
| **Lesson 5:** | Spelling–Floss |
| **Lesson 6:** | Spelling–Kiss the Cat Rule |
| **Lesson 7:** | Spelling–Milk Truck Rule |
| **Lesson 8:** | Spelling–ING INK Units |
| **Lesson 9:** | Spelling–Catch Lunch Rule |
| **Lesson 10:** | Spelling–Contractions |
| **Lesson 11:** | Spelling–Kind Old Units |

| **Level 4: Multi-Syllable words and Vowel Teams** | |
|---|---|
| **Lesson 1:** | Open Syllables |
| **Lesson 2:** | Syllable Division Rule #1 |
| **Lesson 3:** | Syllable Division Rule #2 |
| **Lesson 4:** | Spelling–/k/ in the middle |
| **Lesson 5:** | Spelling–Double Letters |
| **Lesson 6:** | Spelling–Schwa |
| **Lesson 7:** | Syllable Division Rule #3 |
| **Lesson 8:** | Syllable Division Rule #4 |
| **Lesson 9:** | Three-Syllable Words |
| **Lesson 10:** | Spelling–The Banana Rule |

| | |
|---|---|
| **Lesson 11:** | Spelling–The Confident Rule |
| **Lesson 12:** | Spelling–Long A, E, I at End (Vowel Teams) |
| **Lesson 13:** | Spelling–Long O, U at End (Vowel Teams) |
| **Lesson 14:** | Spelling–Vowel Teams in Middle 3 (Vowel Teams) |

| **Level 5: Prefixes & Suffixes** | |
|---|---|
| **Lesson 1:** | Plurals–S versus ES |
| **Lesson 2:** | Consonant Suffixes |
| **Lesson 3:** | ED and ING, The Doubling Rule |
| **Lesson 4:** | Other Sounds of ED |
| **Lesson 5:** | Vowel Suffixes |
| **Lesson 6:** | Spelling–The Change Rule |
| **Lesson 7:** | Spelling–TION versus SION |
| **Lesson 8:** | Prefixes: dis, in, un, non |
| **Lesson 9:** | Prefixes: mis, sub, re, pre |
| **Lesson 10:** | Prefixes: inter, mid, over, up |

| **Level 6: Six Reasons for Silent-E** | |
|---|---|
| **Lesson 1:** | Silent-E's in One-Syllable words |
| **Lesson 2:** | Syllable Division with Silent-E |
| **Lesson 3:** | C's and G's with Silent-E's |
| **Lesson 4:** | Spelling–V at the End |
| **Lesson 5:** | Spelling–The Huge Bridge Rule |
| **Lesson 6:** | Spelling–The Dropping Rule |
| **Lesson 7:** | Spelling–Tricky Suffixes |
| **Lesson 8:** | Spelling–PH and Medial Y |
| **Lesson 9:** | Unit–TURE |
| **Lesson 10:** | Spelling–TION and SION |
| **Lesson 11:** | Silent-E Units |
| **Lesson 12:** | Consonant-LE Syllables |
| **Lesson 13:** | Spelling–The Sprinkle Vehicle Rule |
| **Lesson 14:** | Spelling–ABLE versus IBLE |

| Level 7: Vowel-R's | |
|---|---|
| **Lesson 1:** | AR and OR |
| **Lesson 2:** | ER, IR, and UR |
| **Lesson 3:** | Vowel-R with Silent-E |
| **Lesson 4:** | Prefixes & Suffixes with Vowel-R |
| **Lesson 5:** | Spelling–Commodore Sailor Rule |
| **Lesson 6:** | Bossy W |
| **Lesson 7:** | Spelling–Edward the Lizard Rule |
| **Lesson 8:** | The Three Sounds of EAR |
| **Lesson 9:** | AR and ER can say /AIR/ |
| **Lesson 10:** | Word Endings ARY, ERY, and ORY |

| | |
|---|---|
| **Lesson 11:** | Vowel-R Plus R |

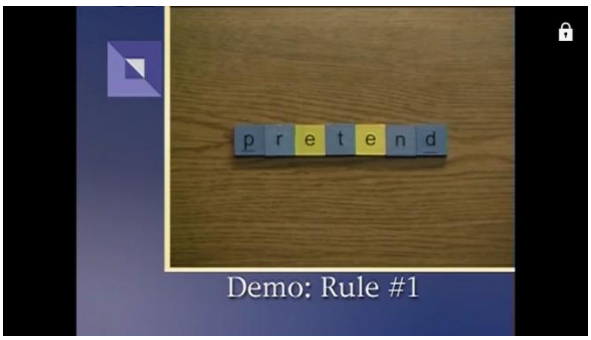
| Level 8: Advanced Vowel Teams | |
|---|---|
| **Lesson 1:** | Spelling: India Indian Musician |
| **Lesson 2:** | Spelling: Obvious Spacious Religious |
| **Lesson 3:** | Spelling: Radio Union Million Region |
| **Lesson 4:** | Spelling: Industrial Special Dial |
| **Lesson 5:** | IE: Piece of Pie |
| **Lesson 6:** | OI, OY, EY: Oil Boy, Turkey |
| **Lesson 7:** | AU, AW: Audience Saw |
| **Lesson 8:** | OO: Good Food |
| **Lesson 9:** | OU, OW: Mouse Group, Slow Down |
| **Lesson 10:** | EA: Clean Breath is Great |
| **Lesson 11:** | IGH, AUGH, EIGH, EI |
| **Lesson 12:** | EU, TU: Feud, Sleuth, Actual |
| **Lesson 13:** | Split Vowels |

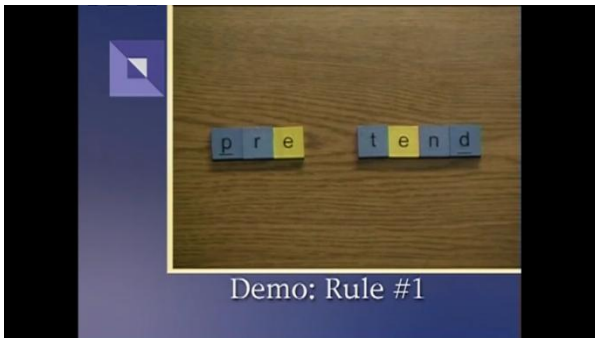
| Level 9: Influence of Foreign Languages | |
|---|---|
| **Lesson 1:** | Greek Words |
| **Lesson 2:** | Silent Letter Pairs |
| **Lesson 3:** | Words That End in I and INE |
| **Lesson 4:** | French Words: QUE and CH |
| **Lesson 5:** | French Words: AGE and 2 Suffixes |
| **Lesson 6:** | French Words: Silent and Accented E |
| **Lesson 7:** | French Words: Silent S and T plus EAU |
| **Lesson 8:** | French Words: OUR |
| **Lesson 9:** | Spelling: G, GU, and GUE |

| Level 10: Latin Roots & Greek Combining Forms | |
|---|---|
| **Lesson 1:** | Lesson 1: Latin: Chameleon Prefix: IN |
| **Lesson 2:** | Latin: Chameleon Prefix: CON |
| **Lesson 3:** | Latin: Chameleon Prefixes: OB and SUB |
| **Lesson 4:** | Latin: Chameleon Prefix: AB |
| **Lesson 5:** | Latin: Chameleon Prefixes: EX and DIS |
| **Lesson 6:** | Greek Combining Forms |
| **Lesson 7:** | Greek Forms in Science |
| **Lesson 8:** | Greek Forms in Math |
| **Lesson 9:** | Greek Forms in Medicine |
| **Lesson 10:** | Greek Forms in Social Studies |

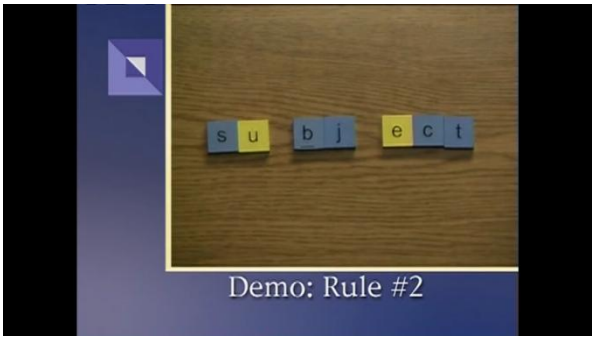
# Appendix 4: Example Tiles from BRSS

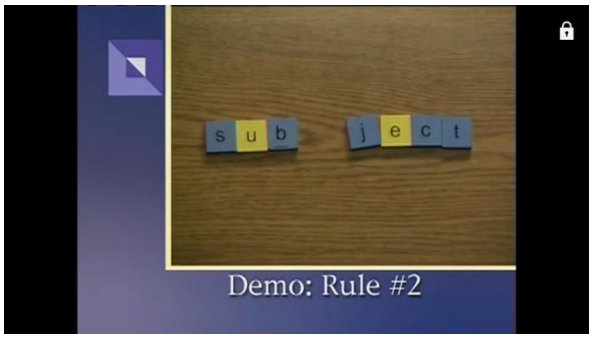
From Level 4, examples of Rule #1& Rule #2 from Barton (2014):



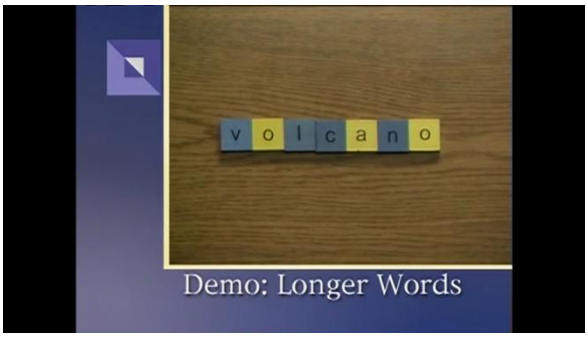








An example for longer words:




# Appendix 5: Interview Guide

**Before the Interview**

- Introduction of myself and purpose of interview
- Statement of using recorder along with written notes
- Statement of confidentiality and consent

**1. Introduction**

Would you mind telling me a little about yourself?

(Educational background, nationality, languages spoken, etc)

How long have you worked with students with dyslexia?

How do you view or define dyslexia?

How did you come upon the Barton Reading & Spelling System?

How long have you been using the program?

**2. Barton Focused**

Tell me about your experiences with the program?

(Positive aspects/strengths, negative aspects/challenges, effectiveness)

Do you follow the program step by step or make alterations as you go?

When using the program, do you use any other methods in addition to it?

Would you recommend the Barton system?

**3. Student Focused**

How many dyslexic students have you had using Barton?

How do you know your student(s) have dyslexia? How were they diagnosed?

How has BRSS affected students you've had?

(Second language students, reading attitude, reading comprehension, attention)

Have any parents given feedback on their child's progress with using the BRSS?

How is it using BRSS and having a transient population of students?

Have you used other methods to teach dyslexic students?

**4. Concluding Questions**

Is there anything you would like to add that was not mentioned?

How was your experience in partaking in this interview?

I will be analyzing the information you and others give me. I will be happy to send you a copy to review at any time, if you are interested.

Thank you for your time.